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## ADDRESSES.

### JOHN CLARKE, PHYSICIAN, PHILANTHROPIST, PREACHER AND PATRIOT.

*An Oration delivered before the American Medical Association, June 25, 1889.*

BY HON. WM. P. SHEFFIELD,

OF NEWPORT, R. I., LATE UNITED STATES SENATE.

No person however equipped for the duty, who duly appreciates the undertaking, can arise to address an audience of men trained in any department of science without embarrassment.

This embarrassment is increased with the consciousness of the want of the special knowledge in which the audience before me are adepts, and by the different schools of professional life in which we have been trained.

Before me is an audience of men selected from the most eminent of the devotees of the most abstruse of physical sciences, while I have no claim to their attention, but the having from an unfortunate accident, presented a case which has attracted the notice of some very eminent persons in one of the departments of their humane profession.

The teachings of experience are that the human race are prone to violate the laws of life and health, and all of the analogies of Nature as well as of the revealed law of God indicate that penalty falls upon violated law, and that there is the necessity of a curative or healing process.

Evangelical Christianity as well as civil codes, are based upon these fundamental ideas. Here rest the foundations for the necessity of the office, and from these premises may be drawn the outline of the duties of the physician. A profession sanctioned by the example of the Savior of mankind in His healing of the sick, and making the lame to walk.

The limits prescribed to me as well as the proprieties of this occasion, forbid any further advance in this direction.

I have been asked to speak to you of John Clarke. Many who hear me will ask, Who was John Clarke? I answer, the pioneer physician of Rhode Island, the first Baptist Clergyman in America, the author and procurer of the Charter for the State of Rhode Island which remained the fundamental law of the State until May, 1843, and up to the time of its repeal was the oldest and most liberal written constitution of government in Christendom.

John Clarke was born in Bedfordshire, England, October 8, 1609. I have not ascertained where he was educated, but it has been said that he was "a master of his native tongue and learned in the ancient languages."

The Rev. D. B. Ray, on the authority of "The Trilemma," says that "he received his baptism in Elder Stillwill's Church in London." He writes, "in the year 1637 I left my native land, and in the ninth month of the same (November), I arrived in Boston." He came while the court was in session, and after the death sentence of Mrs. Hutchinson.

On the 17th of May previous, the Massachusetts General Court had enacted a law forbidding towns and persons to receive any stranger who resorted there with intent to reside in that jurisdiction, or to allow any lot or habitation to any such, or to entertain them above three weeks, but under allowance of one of the governor's council or under the hands of two of the magistrates. For a violation of this law a heavy penalty was provided.

Unhappily, Clarke entered Boston while this law was in force, and during the pendency of a bitter controversy which had arisen out of the question whether the internal evidence of the Spirit, which was called the covenant of grace, or the works demonstrated in the lives of professors, was the better evidence of justification before God.

The Rev. John Wheelwright, who was an ardent advocate of the covenant of grace, had been tried for his heresy, and was already under sentence of banishment.

And on the 20th of November, a few day's after Mr. Clarke's arrival in Boston, many other persons, including Mr. Clarke, were given liberty to depart from that Colony, and Clarke went into banishment with Wheelwright, and they spent the winter in Exeter, New Hampshire. When Clarke came to Boston, he was 28 years of age, He was described as being a physician.

He complained of the coldness of the New Hampshire winter, and in Boston early in the following March, he joined eighteen of the victims of the covenant of grace, and crossed the Country to Providence, where he arrived within the first seven days of March, and from there went to Plymouth with William Coddington, to see about obtaining a place for a settlement, and then returned to Providence, and signed a compact for the settlement of Rhode Island on the 7th of March, and the next day with his co-settlers came to Rhode Island in Roger Williams' shallop, and on the 24th of March, with Coddington and Williams, went across the Bay to Canonocus's city, and there they procured the title to this island. Here they lived in caves until they could provide better shelters.

Among their early acts in the Spring of 1638, was to appoint a committee to lay out a site, and to provide for the erection of a meeting-house. Clarke was their preacher, as well as their physician. The men whom he accompanied to Rhode Island, had among them some who were gentle born, men of learning and of high characters.

They had no charter from the Crown, but had agreed upon a form of government based upon the Bible as their constitution, and the majority of the masters of families as its final interpreter only in civil things. They declared their form of government to be democratic, and for full liberty of conscience so long as conscience was not sought as a shield for breaking the public peace.

New men came among them who denied the validity of their government in the absence of a royal charter. Here a question arose which seriously threatened the peace of the Colony. Then Coddington, Clarke and others, early in 1639, removed to Newport, and there commenced the settlement of the town in which we are now assembled.

In the following December a church had been organized, and Clarke was its preacher.

John Clarke was now actively engaged with his co-settlers in establishing the Colony, and in preparing a concordance of the Bible

In July, 1651, the church at Newport received a request from William Witter, an aged blind man of its faith and order, that some of the church would visit him at his residence in Lynn, in the Colony of Massachusetts. Clarke, accompanied by Obadiah Holmes and John Crandall, responded to Witter's invitation, and went to Lynn. On Sunday, while at Witter's, with Witter and his family and four or five other persons, while conversing upon religion, two constables arrested the three visitors and took them to the Lynn church and detained them until the next morning, when they were taken before a magistrate when, without evidence being adduced against them, they were convicted of having been taken by the constable at a private meeting at Lynn upon the Lord's day exercising among themselves, to whom diverse of the town repaired and joined with them, for which Clarke was sentenced to pay £20 or to be whipped. He refused to pay the fine or to assent to its payment by others, yet the fine was secretly paid without his consent, while Holmes and Crandall both suffered the infliction of the alternative sentence, and were severely whipped.

A difficulty had arisen in the Colony, and in consequence thereof, William Coddington, who had been governor, had obtained from the ruling power in England, a commission to be governor of the Island of Rhode Island for life. The Colony up to that time had maintained a democratic form of government, and this change in its civil polity aroused the people to resist the change. The attention of the people was at once turned to Dr. Clarke, and a request signed by sixty-five, a majority of the freemen at Newport, and by 41, a majority of the freemen of Portsmouth, was presented to him to go to England and procure a revocation of Coddington's Commission, and to endeavor to secure a charter protecting the rights of the Colony. He accepted this service, and in November, 1651, with Roger Williams, who represented the Providence Colony, sailed for England, and here commenced Dr. Clarke's career as a Statesman. I use the term Statesman in its higher and better sense, for the popular mind overlooking literal meanings draws a wide distinction between the terms Statesman and politician. The latter thus is made to signify the art of obtaining votes by calculation, and by cunning and adroit methods, while the former implies the power to wisely organize, and prudently administer a government for the people. In this sense it will appear that John Clarke, though he was the contemporary of Sidney, of Cromwell, of Vane and of John Milton, was endowed with a genius of Statesmanship above, and in advance of that which any man of his time was enabled to practically apply to the government of a civil State.

In England Dr. Clarke was kindly received by the leaders in the great struggle which was then being carried on. Coddington's commission was at once suspended and ultimately revoked. Clarke remained in England, the agent of the Colony for twelve years, during which time he published his concordance of the Scriptures. (Aug. 3, 1655.)

In the calender of Colonial State Papers, p. 427, is the following entry: "John Clarke, physician of Rhode Island, in America, having composed and very closely compacted a new concordance to the Holy Scriptures of Truth, which in regard of its plainness and fulness, and yet smallness of volume and price may prove singularly conducive to the help of those who desire to try all things in these trying times by that touch stone of truth. Henry Hill is licensed to print

and publish the same to the exclusion of all others, and the Company of Stationers are required to enter this order in their Register."

I am not aware that a single copy of this concordance has survived the wastes of the intervening centuries.

Clarke mortgaged his estates in Newport to Richard Dean, to obtain money in London to support himself while he was abroad on the business of the Colony.

His occupations during the twelve years he was the agent of the Colony in London, are largely left to inference and to the declaration of the town of Warwick, which in refusing to pay its proportion of the expenses, he incurred in rendering his great service to the Colony while in England said: "He was much employed about modelizing of matters concerning the affairs of England, in which no doubt he was encouraged by men of no small estates." It is known that he was on intimate terms with, and was often the guest of Sir Henry Vane, and that he sustained friendly relations with other leading men in England in the time of the Commonwealth.

Both Massachusetts and Connecticut sought, while Dr. Clarke was the agent of the Rhode Island Colony, to obtain parts of the territory of the latter Colony to be annexed to their respective territory. Clarke, by unwearied exertion, and with remarkable address, defeated these designs. In 1662, in behalf of the Colony of Rhode Island, he presented two addresses to the Crown, asking for a Royal Charter. If Clarke's fame stood alone upon these wonderful State papers, he would have been regarded as having made one of the boldest and clearest conceptions of the rights of persons, and of the most advanced theories of civil government that up to that time had ever been announced. He closed the second of these Addresses with the following passage, which was embodied in the Charter:

"Your petitioners have it much on their hearts, (if they may be permitted) to hold forth a lively experiment, that a flourishing civil State may stand, yea, and be best maintained, and that among English spirits, with a full liberty in religious concernments, and that true piety rightly governed upon gospel principles will give the best and greatest security to true sovereignty, and will lay in the heart of men the strongest obligations to a true loyalty."

The Charter was granted by the King to the great displeasure of his counsellors of State, and new principles were thus embodied into civil government. Mind was emancipated when conscience was made free. And a people were enabled to make their own laws which by the charter might be pleaded in bar to an Act of Parliament or of the King. Laws which were not to be subjected to the risks of a royal veto. And under that charter, says Calmers, the people of Rhode Island acted as if they were without the King's dominions. It is safe to say, that up to that time, and until after the American Revolution, no fundamental law of any State in Christendom had embodied absolute freedom in religious concernments, and so large a measure of civil liberty, as was embraced in the Charter of 1663.

On the 24th of November, with every possible demonstration of joy, the assembled freemen of the Colony adopted the Charter, and it became the fundamental law of the State, and so it remained until May, 1843.

The expressions of the gratitude of the Colony to Dr. Clarke and to the King, couched in language of extreme eulogy, were returned to them in England. While this charter was yet the fundamental law of the State, said Bancroft, the venerated historian of our country, "no where in the world has life, liberty, and property been better preserved than in Rhode Island under this royal Charter."

Graham, the Scotch historian, arraigned Dr. Clarke for the manner in which he obtained this Charter from the Crown. This attracted the attention of Mr. Bancroft, who was the first prominent writer of American history to do justice to the founders of Rhode Island, and he demonstrated that the charges of Graham rested mainly upon what occurred at Westminster between the King and John Greene and Randall Holden, who went to England after the decease of Dr. Clarke, not as the agents of the Colony, but in behalf of themselves and possibly some other settlers of the town of Warwick. In this controversy Mr. Edmund Quincy, and others in Boston, took the side of Graham, and Mr. Bancroft was ably supported by the late Professor Gammell. Mr. Bancroft has thus recorded his appreciation of Dr. John Clarke.

"Never did a young Commonwealth possess a more faithful friend than the modest and virtuous Clarke, the persevering and disinterested envoy, who during a twelve years' mission had sustained himself by his own exertions and a mortgage on his estate; whose whole life was a continued exercise of benevolence, and who at his death bequeathed all his possessions for the relief of the needy, and the education of the young. Others have sought office to advance their fortunes; he, like Roger Williams, parted with his little means for the public good. He had powerful enemies in Massachusetts, and left a name without a spot."

The Rev. John Callender, who was well acquainted with some of the men who in his time had known and been the associates of Dr. Clarke, said of him:

"He was a faithful and useful minister, courteous in all the relations of life, and an ornament to his profession, and to the several offices which he sustained. To no man is Rhode Island more in-

debted than to him. No character in New England is of purer fame than John Clarke."

The Rev. Isaac Backus, of Massachusetts, the historian of the New England Baptists, writing of Dr. Clarke, says:

"Mr. Clarke left as spotless a character as any man I know of, that ever acted in any public station in this country. The Massachusetts writers have been so watchful and careful to publish whatever they could find, which might seem to countenance the severities they used towards dissenters from their way, that I expected to find something of that nature against Mr. Clark, but I have happily been disappointed. Among all their authors or records that I have searched, I have not met with a single reflection cast upon him by anyone; which I think is very extraordinary. Few men ever merited the title of a Patriot more than he did, for he was a principal procurer of Rhode Island for sufferers and exiles. And when their rights and liberties were invaded, he crossed the ocean, and exerted all his influence, in twelve years' watchful and diligent labors for his Colony at the British Court, till he obtained a new Charter for them, of great and distinguishing privileges."

At the time of the arising of the Quaker Controversy in 1658, Rhode Island had received an official letter from the United Colonies, advising it not to entertain these people, and admonishing the Colony, "if it did receive and entertain them notwithstanding the advice of the United Colonies, that these Colonies would then see what God would move them to do to save themselves and their families from the influence of Quakerism."

This occurred while Dr. Clarke was the agent of the Colony in London. And the Colony addressed a letter to Dr. Clarke upon this subject, in which its appreciation of the doctor's services is stated as follows: "We have known not only your ability and diligence, but also your love and care to be such concerning the welfare and prosperity of this Colony since you have been entrusted with the more public affairs thereof, surpassing that no small benefit which we formerly had of your presence at home, and in all straits and incumbrances are emboldened to repair to you for your continued counsel care and help, finding that your solid Christian demeanor hath gotten no small interest in the hearts of our superiors, those worthy and noble senators with whom you have had to do in our behalf, as it hath constantly appeared in your addresses made unto them, which we have by good and comfortable proofs found having plentiful experience thereof."

This letter besought Clarke "to have an eye and ear open in case our adversaries should seek to undermine us in our privileges granted unto us, and to plead our case in such sort as we may not be compelled to exercise any civil power over men's consciences, so long as human orders in point of civility are not corrupted and violated, which our neighbors about us do frequently practice, whereof many of us have large experience, and do judge it to be no less than absolute cruelty."

Referring to the Quakers, this letter sets out: "We have found no just cause to charge them with a breach of the civil peace. They are constantly going forth amongst them about us, and vex and trouble them in point of their religion and spiritual state, and return with many foul scars in their bodies for the same."

The situation of Dr. Clarke when in England was perplexing in the extreme, for Connecticut claimed the territory of Rhode Island on the west to Narragansett Bay, and Massachusetts and Plymouth claimed the territory of the eastern part of the Colony also to the same Bay. So as the agent of the Colony he had to contend for the existence of his constituency. Happily for him, Connecticut was for a time represented in England by Governor John Winthrop, Jr., who was like Clarke a physician of eminence, and a devoted scientist. Clarke and Winthrop met as wise and just men should always meet, and agreed upon a settlement of the Connecticut boundary, the result of which settlement Clarke prudently had inserted in the Charter, and though afterwards long contentions were had between these Colonies, in which Connecticut sought to vacate this settlement, yet the boundary fixed by Clarke and Winthrop remains the line which marks the jurisdiction of the States of Rhode Island and Connecticut to this hour.

Clarke returned to Rhode Island to receive the gratitude of its people for the priceless benefaction his genius and Statesmanship had conferred upon the Colony in June, 1664.

On his return he was at once elected a member of the General Assembly, now organized under the Charter procured by his exertions, which secured beyond any lawful interference of Crown or Parliament the civil and religious liberties of the people. And upon which a government was to be framed on principles which had no traditions in the past history of the world. Clarke entered the Assembly. The first resolution to be passed was that thereafter every session of the Assembly should be opened by the reading of the patent.

A letter of thanks was drawn up and presented by the presiding officer to Dr. Clarke, and a committee was appointed to audit his accounts. He was also made a member of a committee to revise the laws of the Colony to see that they be made to conform to the Charter, and was appointed a commissioner to run the boundary line between the Colony and the Colony of Connecticut.

The distinctive principles recognized in the foundations of the government of Rhode Island in the Charter procured by Dr. Clarke were:

1. The Indians had a title to the soil of which they could not be deprived but with their consent.

2. The right of the people who owned the soil to establish a civil government for those who should reside upon it, and to determine who should be admitted to be freemen with them.

3. The freedom of conscience from the control of the State, so long as the exercise of that freedom did not tend to the disturbance of the civil peace.

4. By the Charter it was provided that the legitimate exercise of authority conferred thereby should be a bar to any prosecution therefore, against any act or proceeding of the King or of Parliament.

The credit of the discovery of these principles in government Dr. Clarke shares with others, but the incorporation of the principles of civil and religious liberty into the Charter, and the protection of Chartered rights against the invasion of King and Parliament, by anticipating and applying to this quasi-corporation the principles long after settled in the Dartmouth College case, was the work of Dr. Clarke.

To properly appreciate the merit of these provisions we should place ourselves in the situation in which Dr. Clarke was placed, and surround ourselves by the state of governmental science, as it was at the time of the return of Charles II to the throne, and the granting of this Charter, and then look forward through the intervening time, and watch the expansion of these principles in government as they, like the dawn of the coming day, have been spreading over the world. Then we reflect that principles are stronger than men; men die, but principles live forever. The principles incorporated into the Charter of Rhode Island are yet expanding and ameliorating the conditions of mankind, and will continue their work until they overthrow thrones and every where break down dynasties and hereditary privileges to govern. And the dissemination of education and morality among the masses of the people after the manner proposed by Dr. Clarke, and for which he by his will gave his private fortune, will fit the people to rise above the scrambling hoard of political pirates who now, like hungry dogs after prey, strive to obtain places which should be places of honor and trust, with as little scruple or regard to consequences as the privateersman disposes of his plunder and prize money.

Dr. Clarke was thrice married, but died childless, April 20, 1676, and was buried in what was the south-east corner of his orchard, near his dwelling, and his church on the northerly side of what is now West Broadway, in Newport.

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DR. SEGUIN, of New York, has been presented to the Paris Academy of Medicine as corresponding member.

# MARKING AN ERA IN LARYNGOLOGY.

*The Address of the Chairman of the Section of Laryngology and Otology, delivered at the Fortieth Annual Meeting of the American Medical Association, June, 1889.*

BY WILLIAM H. DALY, M.D.,
OF PITTSBURGH, PA.

*Gentlemen and Colleagues:*—Let us congratulate ourselves that, at last, we, as laryngologists and otologists, are in position to mark an era in the progressive history of the American Medical Association—an era of good, solid medical sense. I refer to this, the first meeting of the Section of Laryngology and Otology, as a separate and individual body disassociated from the Section of Ophthalmology, in which the two former closely related specialties have thus far in our history played a secondary rôle

As laryngologists and otologists we have long agreed that, to be an able practitioner in either specialty, one must be a well informed and competent practitioner in both these special branches of medicine; but so far as ophthalmology is concerned, if we except certain catarrhal ophthalmias of a chronic character, there is little call for the constant special skill and daily practice of the laryngologist in the ordinary treatment of the eye. But in the interest of otology, we, as laryngologists, feel a pride that grows with experience (especially those of us who have given more than the usual attention to intra-nasal diseases), that we made no mistake in our formulated opinion expressed eight years ago, at the International Medical Congress at Copenhagen, viz.: That the laryngologist of the future must be more the rhinologist, and the rhinologist more the surgeon than the physician. For this formulated prognostic expression of opinion, the author was assailed by some excellent men and friends in our specialty, as giving a blow to laryngology; but when such able minds as Profs. Bosworth and Jarvis of New York, Roe of Rochester, Woakes of London, and others, endorsed the author's views in their daily practice, and publicly in their writings and discussions, and a host of others, such as Profs. Harrison, Allen, Sajous, etc., endorsed them by adopting them in their daily practice, it was enough that I had voiced a prediction that was being and has been entirely verified by experience.

But as to the practical application of these views, they come to us with a redoubled force and utility in by far the largest number of the inflammatory diseases of the middle ear; hence I desire to refer to them, and to this end I ask the question, "How shall we attack a chronic otitis media successfully?" How can we do it without the necessary skill of the laryngologist and rhinologist? The largest number of these cases have begun *not* in the ear, but in the naso-pharynx, and we all know are only arrested (alas! we say *arrested* advisedly) by the rational treatment.

Applied through skill in treating these intra-nasal parts, because too often the original or central disease has been neglected so long, or ignored, that the patient has suffered a permanent and irremediable damage to the middle ear, before the cause of the disability is suspected. However, no informed otologist will think of questioning the assertion that the rhinologist, and the surgical one at that, is the man who will oftenest help him out of his difficulty in all the cases of inflammations of the inner and middle ear.

Now, gentlemen, as we have for the first time in our history come together as laryngologists and otologists, the two (to us, at least) most enticing fields of medicine, where there is probably the largest possible future for good to humanity, in solid, useful and brilliant work, and hence more distinction to ourselves than even the most sanguine suspect, as you see by our programme, we have a long list of papers from able authors, about forty-eight in all, and we must strictly adhere to our rules limiting discussion; and since you have made these rules and I, as your President, simply enforce them, I trust you will aid me with the same courtesy you have always shown me, both personally and publicly, while seeking to perform the not always easy task of a presiding officer.

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## AN ABSTRACT OF THE PRESIDENT'S ADDRESS.

*Delivered at the Fifty-Seventh Annual Meeting of the British Medical Association, Aug. 13, 1889.*

BY CLAUDIUS G. WHEELHOUSE, F.R.C.S.,
CONSULTING SURGEON TO THE LEEDS GENERAL INFIRMARY.

### A CURSORY REVIEW OF THE PROGRESS OF MEDICINE AND OF MEDICAL EDUCATION.

Life, as measured by the standard of the space of time allotted to each unit of the human family, is but a little span. Man has not reached his present condition of intellectual, of moral, or even of physical greatness in one generation; the white cliffs of Albion, in their formation, mark not only generations, but æons in the progress of creation. Rome was not built in a day! So medicine, as she stands to-day, strong by the acquirements of her children of many generations, did not arise upon the world in the full glory of a heaven-born science; but, sifting grain by grain of her faith from the speculations laid at her feet by her followers through countless ages, has, little by little, built up the temple of her fame until it has assumed the proportions in which we now behold it, and of which we are the accredited custodians.

#### THE MEDICINE OF THE EARLY AGES.

Sometimes in the current of events her progress has been labored and slow; with halting and uncertain steps, with Arabian mythologists, astrologers, and such like visionaries as her companions, she has picked her way through gloomy times of mystery, uncertainty, and doubt. At times the light of truth has shone upon her path more brightly and has cheered her on her way; and with the Harveys, the Sydenhams, the Jenners, and the Hunters, the Dupuytrens, Laennecs, and Pasteurs of the world for her companions she has walked with firmer steps until at last she has become an acknowledged power, and stands forth as the companion of even the exact sciences. Each generation of her votaries as it passes across the stage of the world's history, is henceforward bound to leave a mark behind it as its contribution to the sum of existence, and that mark must, in the aggregate, be the result of individual efforts.

To some it is given to do great things, and to stand revealed by the unmistakable stamp of genius. To some, by more prolonged and patient effort, to leave an impress which, if it be not so brilliant, is yet equally fruitful and enduring. And to every one of us, however humble may be the current of his life, it is permitted to make his mark, to add his little contribution to the total sum of a ceaseless progress, and to advance it or to hinder its advance.

I can look upon the broad roll of this great Association and can see there names that will never die—the names of men whose achievements will never perish, who when they sink as their predecessors have done to their rest will leave, as Harvey and Jenner left in former times, a priceless inheritance to mankind at large, whose labors will not have been in vain, and of whom the world will acknowledge that the talent entrusted to them has been productive of abundant fruit, that of a truth they have left the world better and richer than they found it.

I can see hundreds of others who are aiming at this high standard, who by their individual labors are raising the great tower of knowledge, and whose lives, though not illumined by the torch of genius, will yet leave behind them the undying results of patient labor in well-doing; and I see, in all, the roll of a great brotherhood, strong in their efforts to advance the common weal, and doubly strong in the strength of union.

To us, as medical men, all science is of transcendent interest; but, not unnaturally, the sciences which bear on life and death stand, for us, in the forefront; and to each generation as we pass across the stage of existence, it becomes imperative to seek to add something to the store of that knowledge by which life is rendered more endurable, is robbed of some of its attendant evils, some of its sorrows and some of its sufferings.

Our fathers, under disadvantages we are scarcely able to appreciate, did great things. Are we better than our fathers were?

Will you quarrel with me, if, in welcoming you to this our great annual festival, I ask you, for a few brief moments, to ponder over this important question with me?

Life, and with life the progress of science, has ever been chequered with sunshine and shadow. Evil and bright days must follow each other; good times and bad must balance one another, and if, in the great battle for existence, we incline sometimes to lay down our arms and to capitulate, we have the authority of one of the sweetest of sweet singers to revive our fainting courage:

> Be still, sad heart, and cease repining,
> Behind the clouds is the Sun still shining;
> Thy fate is the common fate of all,
> Into each life some rain must fall;
> Some days must be dark and dreary;

and the lives into which, on the other hand, some bursts of sunshine of even more than usual brilliancy do not occasionally force their way are, I would fain hope, very few. . . .

The bill of fare we have provided for your enjoyment will meet, we hope, with your appreciation and approval; and if we have ventured upon the introduction of some few novelties and variations in the usual plan of the annual programme, we have done it in the sincerest hope that we may thereby advance and increase the interest of your sojourn among us.

My duty is an easy and a pleasant one. I am precluded from speaking to you on any of the directly special subjects with which we are called upon, whether as physicians or as surgeons to deal.

Medicine will be discussed, and all that can be said of it will be brought before you by one of the leading physicians of the day; and in Dr. J. Hughlings Jackson will find an exponent to whom you will join me in listening with hearty interest and attention.

Surgery, and the progress it has made and is making, will be dealt with by my friend and colleague Mr. T. Pridgin Teale, and for, I believe, the first time in the history of the Association, an address in Psychological Science will be offered you, and this we have placed in the very able hands of our former tried and ever welcome friend Sir James Crichton Browne.

Our Sections will be presided over by men, who, each in his own department, will tell us all that it is necessary for us to know to keep us abreast with its latest and highest developments, and, as individuals, you will have an opportunity, in the discussions which have been arranged for you, to bring forward any special matters with which you wish to deal, on which you may personally wish to be heard, or to impart to us any information which you have acquired or have worked out. To do this has ever been, and is still, the great object of our Association; and who can calculate the advantage that has accrued to us, as a profession, from the accumulated labor of the fifty-seven years during which it has existed?

Union is strength, and that which men by individual labor never could have accomplished the principle of association has enabled us to do; and by yearly repeated meetings such as this upon which we are entering—with the aid of a journal by which the labors of each one may be made the common property of all—a fund of wealth which must otherwise have died with individuals has been preserved to us for ever.

Of what comparative general value were the labors of individuals in the early days of the present century in comparison with what they are now?

However brilliant the work that was done, or however intrinsically valuable, what opportunities were there of its being made known beyond the limited area of the worker himself; and how much excellent work must have been lost to the world in consequence?

### THE COMPARATIVE ISOLATION OF PRACTITIONERS IN FORMER TIMES.

We, in comparison with preceding generations, have been possessed of advantages of incomparable magnitude. Not only in our own, but in every other science also, knowledge and the facilities for the spread of knowledge have so increased that comparison is almost impossible. Think for a moment of the changes that one generation only has seen! The facilities for personal communication that have come with the advent of railways, of steam, and, above all, of the developments of electrical science, by which not individual portions of our own kingdom only, but all the nations of the earth have been brought into inter-communication. What great discovery can now be made that does not instantly become the property of even the remotest nations of the world, and is not, by any omnipresent press, brought to the personal knowledge of every votary of science?

Does America give birth to anæsthesia? And in what part of the world does the blessing of painless surgery remain unknown? Does Sir Joseph Lister satisfy his own mind of the infinite powers of antiseptic surgery, and in how short a period of time is his brilliant discovery the common property of every surgeon in the world?

What did the surgeon of fifty years ago know of the powers of "germs," of "bacteria," of "bacilli," and of their capability to destroy his most elaborate and perfect work? And where is the student of surgery of the present day to whom they are unknown, or who is unprepared to do battle with them, one and all, and to baffle or to modify their evil influences? What the medicine and surgery of the 18th and preceding centuries

were, we are only able to conjecture. Its medicine we believe to have been little more than an empiricism founded on close observation, and led by a few master minds, and its surgery we know was crude, and, as compared with that of to-day, was even barbarous and cruel, and few of us I imagine would care to witness a major operation, as then performed, by even the most renowned and skilful surgeon.

But the light, even then, was breaking, and not many years of the present century were to run ere truer principles of both medicine and surgery were to be made known to the world, and each was, as a science, to be established on a surer foundation than any on which it had hitherto rested.

### THE GENERAL PRACTITIONER OF THE EARLY PART OF THE PRESENT CENTURY.

Let me endeavor to draw a sketch of the average practitioner of the commencement of the present century, and there may be some, at any rate, in this room who can follow me and judge whether I paint him correctly, or whether, trusting too much to tradition and report, I do him injustice.

He was usually a hard-working industrious man, who thought little of bodily exertion, and who spent the greater part of his time in his saddle, which was his only way of getting about the country; a hard-thinking man, but one whose mental training had not been great, nor his education elaborate; whose opportunities for the acquisition of professional knowledge had been few and short; of whom it might be said that that which he knew was, in the main, either the fruit of his own observation, or of his own observation added to the traditions of the place or practice in which he had been brought up.

Knowledge and practice alike were purely empirical with him, and though he could treat disease with skill, and could, in most cases, give a good account of his warfare, it was purely by empirical means that he did it. His great panacea for all ailments was blood-letting, and his pocket was never unarmed with the all-potent lancet.

*As a Physician.*—No matter what the case might be, so long as it was "acute," venesection must precede everything else; then followed a superabundance of mixtures, powders, draughts, pills, lotions, etc., with which he hoped to effect a double purpose, first, to cure his patient, and, secondly, to remunerate himself for his attendance; for, so trifling were the charges he was able to make for his personal labor, and at so low a rate was that estimated by his patients, in comparison with the amount of medicine he gave them, that, except for the additional charges made for it, his remuneration would have been infinitesimal. He had a good sound knowledge of drugs in general, and of what they could do; he was sadly too ready to rely on them, and his patients were compelled not only to swallow most nauseous compounds, but too swallow them also in inordinate quantities. Of the morbid anatomy of diseases he knew something, but not much; of pathology, in its true sense, he knew nothing, for physiology, whether healthy or morbid, was not one of the sciences of his day. When he "walked the hospitals" for the few months required of him, he saw a few post-mortem examinations, and had the opportunity to mark the ravages and the appearances left by various so-called diseases, and these he was apt to regard as the diseases themselves. His treatment was chiefly based on nomenclature; he could tell you what was good for "fever," what for "tic," for "rheumatism," for "indigestion," for "scurvy," and for innumerable other complaints; and he who was believed to possess the greatest number of formulæ for the greatest number of complaints was regarded as the cleverest and most desirable doctor.

*As a Surgeon.*—As a surgeon he was, as a rule, further behind the practitioner of to-day than he was as a physician. His education, such as it was, had taught him to rely, in this branch, more on the skill of others than on his own. There were certain men, well known in their several districts, as the men to whom to appeal in cases of surgical emergency, and they were the men who made world-wide reputations. . . .

### SURGICAL OPERATIONS IN FORMER TIMES.

A surgical operation in those days was an ordeal of fearfully different magnitude to anything known to us to-day, and, naturally enough, the patient had a large say in the matter. Confidence in operations themselves and confidence in the skill of the operator were not then what they are now, and it must be remembered that when, as the only means of escape with life, an operation had to be performed, it had also to be endured in all its unalleviated agony. Courage and endurance, unfortunately are not given alike to all, and many a life which would be saved to-day was at that time voluntarily laid down, not simply for want of faith in the capability of the surgeon, but from sheer inability to face the terrible ordeal of bodily suffering involved. . . .

### THE MEDICAL SCIENCE OF THE PRESENT DAY.

That the medical science of our time is in advance of that of the time of which I have been speaking is beyond question, and that the effects produced by increased knowledge and research have given advantages to the world of indescribable value no one will deny. Look where you will, whether over the domain of medicine or of surgery, and the facts are indisputable. The field is enlarged, the culture of the field is im-

proved, and the harvest is, beyond all question, infinitely greater, and it is surely worth our while on an occasion such as this, to ascertain, if we can, wherein lies the secret of our advance.

In a large measure it is due to our possession of vastly improved instruments of precision.

To our ancestors the revelations the microscope has made to us were but a dream. They could theorize, and argue and believe, but the things upon which they could only theorize, and argue and believe, are living verities to us. To them the existence of a *materies morbi* was only an argument, whereas now, we know not only that the causes of many diseases are indeed material, and even tangible, but that we are able to demonstrate and see them, to recognize their individuality, their specific forms, and the phenomena of their growth, propagation, and development.

I call to mind a story of two great Scotch professors—the one a theorist, the other a materialist. The materialist would argue that certain forms of disease must be due to the presence of germs, and were the direct results of their development, propagation, and multiplication; and the theorist would cry "here is your microscope, show me but one of these germs and I will believe; but, until you do, I cannot;" and, being unable to do this, his friend could only fold his hands and wait patiently, hugging his belief, meanwhile, but with the conviction of certainty none the less.

Gentlemen, picture these two professors now, if they could meet, and know only as much as we know of bacteria and bacteriology, and of the field of germ pathology. And meanwhile, yet another Scotch pathologist as fully convinced as though he could see or had seen the whole range of modern pathological development, so ponders the theory, and acts upon what he believes its possibilities to be, that, at last, he lays at the feet of his profession the whole science of antiseptic surgery. So, in like manner, and little by little, the microscope has revealed to us many of those hidden mysteries which constitute the whole science of physiology, has shown to us the beauties of capillary and lymphatic circulation, has enabled us to understand and comprehend the processes of absorption, of disintegration, and of recuperation, and has placed at our disposal the key to mysteries of which our predecessors could have but faint imaginings, but which we know, and know with a certainty which constitutes our knowledge science indeed.

Thus medicine and surgery have alike been founded on a rock of knowledge, from which they can never henceforward be dislodged, and from which in their future progress light may be made to shine, which will illumine their path along whatever roads they may advance, and will dispel many a doubt and darkness which, in former times, would have been insuperable barriers to their progress. And so, by other instruments of precision, barrier after barrier has been removed from our path, doubt after doubt has been cleared away, and we now see clearly where heretofore we had only seen as "in a glass darkly" and unassailable stores of knowledge have thus been placed at our disposal. What shall I say, for instance, of our advance along the pathway opened up to us by electrical science? Is not this alone one which, uncomprehended in former times, has enabled us to build up knowledge of phenomena, without which the infinite intricacies of the action of the nervous system must have remained shrouded in profound darkness, and out of the chaos of former mysteries to see, clearly defined, order and law where ignorance, hypothesis, and mystification formerly had reigned supreme. And while physiology has thus grown into a true science, pathology has also advanced with equally rapid and giant strides. We see, indeed, as our ancestors did, the ravages made and left behind in the track of disease, but we see them only as the evidences of deeper physiological mysteries; we study them as the effects of processes which have constituted the true phenomena of disease, and we seek to unravel them one by one until we see clearly how they have arisen, and what they denote. And so, with ceaseless patience, we endeavor to track down mischief to its origin and birth. Year after year our patience is rewarded by fresh discoveries, fact is added to fact, uncertainty after uncertainty is dispelled, and thus, each year, the tree of knowledge puts forth fresh shoots and brings us a more and more abundant yield of goodly fruit.

Advances, however, of such kinds as these, and in such directions, do not, in my opinion, constitute the chief or highest glory of modern medicine.

## PUBLIC MEDICINE.

A common reproach is often brought against both medicine and its practitioners that it is a sceptical profession; that its practitioners are essentially materialists in their views; that medicine, as a science, leads to free thinking, and seeks, in a rational explanation of every fact with which it is brought into contact, to undermine our belief in things spiritual, and to lessen our faith in all that we cannot see, and handle, and account for; that constant contact with pain and suffering tends to numb our sympathy and to diminish our pity for the sufferings of mankind.

On this point I would venture fearlessly to challenge any other calling or profession to produce a parallel to the modern development of "Public Medicine," a science which seeks ever, even at the risk of its own extinction, to exterminate the causes of disease and death, and to eradicate from the world the very springs and sources from which they arise.

"It is a Commonwealth sustained and gov-

erned by the desire existing in the minds of each of its members to do as much good as possible to every other member." It looks upon prevention as better than cure, and asserts, as is now clear to all, "that a large part of human suffering is preventable by improved social arrangements," and sets itself to the task of sweeping away all such preventable causes.

"Its compassion is all the deeper, its relief more prompt and zealous, because it does not generally, as former generations did, recognize such calamities to be part of man's inevitable destiny; and it hurries with the more painful eagerness to remedy evils which it feels ought never to have befallen."

"When the sick man has been visited, and everything done which skill and assiduity can do to cure him, modern charity goes on to consider the causes of his malady; what noxious influences besetting his life, what contempt of the laws of health, in his diet or habits, may have caused his sickness, and then to inquire whether others incur the same dangers, and may be warned in time."

"Our Great Example commanded His first followers to heal the sick and give alms, but He commands us and all His followers in this age to investigate the causes of all evils, to master the science of health, to consider the question of education with a view to health, and while all these investigations are made with free expenditure of energy and time and means, to work out the rearrangement of human life in accordance with the results they give; and if, instead of undoing a little harm, and comforting a few unfortunates, we have the means of averting countless misfortunes, and raising by the right employment of our knowledge and power of contrivance, the general standard of happiness, we lessen the necessary evils of life, lengthen the term of human existence, wipe out the causes of innumerable griefs and sufferings, make life more endurable and happy, can it be said that we are failing to obey the commands or to undermine the teaching of our great Master.[1]"

Can it be denied that these are among the chief aims and objects of our profession in this our day? Is not every community provided with its officer of health? Is not disease of every kind assiduously and ceaselessly tracked to its hidden birthplace? Can an epidemic now run riot as it did in former times? or devastate a whole country, as it formerly was wont to do? Look at the great scourges of the earth as described in history—at malarial fevers, at small-pox, at typhus, at cholera, at the whole host of epidemic diseases which, born of and fostered by insanitary conditions revelled in the unprotected homes of this and other countries, and sapped the health and strength of nations.

[1] Ecce Homo, chap. xvii, "The Law of Philanthropy."

Are we not adding year by year to the vast stores of our knowledge? Are we not, by our ceaseless search after the seeds of disease, the bacilli, the micrococci, and the germs of which it comes, and by our cultivation of sanitary science, doing a mighty work in the renovation of the world and the diminution of suffering and pain? Can any work be nobler? any search after truth be more innately religious?

Thus at least I argue when I hear our profession charged with irreligion, and thank God for that spirit of ceaseless inquiry which impels us to seek truth and truth only, and, when we have found it, to hold it with a grasp whose tenacity cannot be broken.

So then in our daily life as the servants of our suffering fellow creatures, in our eager race after improvements, in our efforts to spread abroad over the earth the results of the knowledge we attain, I hold that the practitioners of medicine of the now closing nineteenth century have not been left behind in the race of life; that we have won our laurels, and have been faithful to our trust. And as we exult in the progress we have made, and are humbly thankful, so let us hope will those who follow after us, outshine our accomplishments and leave us in turn very far behind them in knowledge and in power for good. . . .

I have endeavored to recall to your memory the character, the achievements, and the capability of the practitioner of former times. I have shown you how infinitely greater is the knowledge and the utility of the practitioner of the present day. We know how he has brought every region of the body, even those which were formerly deemed wholly beyond the sphere of his influence, such as the contents of the cranium, the vital organs of the chest, of the abdomen, and of the pelvis, under the dominion of our science; that by the institution of preventive medicine, he has swept away many of the opprobria, and of the direst scourges of former times; and it only remains to indicate in very few words the still vast field of further utility that lies open for cultivation by the practitioners of the future. There is one plague spot, I fear, which even he will fail to conquer; which will remain to fester, to kill its thousands, to maim, disfigure, and to sap the health of millions, of deserving and of undeserving alike, and, as the great curse of humanity, to baffle all our efforts to arrest the progress of disease, and to render them futile and abortive. You know the curse to which I allude; the curse that steadily and vindictively pursues the track of licentiousness, of ungoverned passion, of hateful sensuality; and you will admit with me that so long as human nature remains what it is, and is left in unbridled possession of the means of gratification, no ray of either light or hope will fall on that dark track.

Some day men may have become sufficiently enlightened to submit to necessary legislation and restrictions on this, and cognate subjects; but, until they do, the foul stream of syphilis will continue to meander, hither and thither, and whithersoever it will through the world of life; will poison its springs, will wither even its fairest blooms, and destroy its richest fruits without selection and without mercy.

By the cultivation of bacteriology and cognate sciences, by a deeper and more profound acquaintance with natural phenomena and laws, I can foreshadow in my mind the time when the whole range of zymotic and exanthematous diseases will have been subdued and conquered; when the seeds of each will have been isolated, and so studied that their individuality will be recognizable; the soils in which they will grow, and those in which they will lie sterile will be known and appreciated, and be brought under cultivation by the hands of the medical men of the day; when the methods of dealing with them will be such that they may be reduced to harmless quantities; and when, by the spread of sanitary science, the whole human race may be protected from their evil influences.

It will not be in our day that these mighty triumphs will be won, but our successors will undoubtedly achieve them; and the time will certainly come when the kingdom of disease will be so closely narrowed down that only the necessary accompaniments of the changes and vicissitudes of natural laws, the evils attendant upon the wilful disobedience of those laws, the innumerable accidents to which life and limb must be for ever liable, and the inherent defects and deficiencies in the harmonious working of the parts of a machine so exquisitely and delicately constructed as is the frail body which, for a time, we inhabit will be the only kingdom in which the professors of medicine and surgery will be called upon to exercise their sway. Then will the victory of our science be complete, and the day will have come when the world will be called upon to acknowledge that the labors of the physician and surgeon, patient, enduring, untiring, as they have been through all time, have not been in vain, and have reached their final consummation.

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DR. JAMES L. CABELL, Professor of Anatomy and Surgery in the University of Virginia, died at Overton, Va., on the 13th, aged 76. He was graduated in medicine at the University of Maryland, in 1834. During the war he had charge of the Confederate military hospital in Charlottesville. He was Chairman of the National Sanitary Conference at Washington during the yellow fever epidemic at Memphis, and subsequently was President of the National Board of Health.

# ORIGINAL ARTICLES.

## INTERNATIONAL COMITY IN STATE MEDICINE.

*Read in the Section of State Medicine at the Fortieth Annual Meeting of the American Medical Association, June 25, 1889.*

BY JOHN B. HAMILTON, M.D., LL.D.,
SUPERVISING-SURGEON-GENERAL U. S. MARINE-HOSPITAL SERVICE.

*Mr. President:*—The last quarantine convention held in this country was held in Montgomery, Ala., March 5, 6, and 7, 1889, pursuant to a resolution of the Alabama Legislature. The conference was largely attended, and although called for the purpose of considering quarantine alone, the meeting resulted in the formulation of some well known principles of sanitation, but which, not having been codified, were, nevertheless, in a somewhat nebulous state. Among other propositions the conference agreed to the following, which I here recite as the text of this paper:

"*Resolved*, That this conference is of opinion that it is a duty devolving on all Nations to take measures to eradicate any plague centre from their territory, and that the existence of such plague centres is a menace to all other Nations, and that our State Department be requested to take measures through proper diplomatic channels for the conveyance of this opinion to the Governments deemed obnoxious to the opinion as herein expressed."

The medical part of International law is a recent creation. The International sanitary conferences that have been held in Paris, Constantinople, Vienna, Washington, and Rome, have successively been the arenas where these questions have been discussed, and so far there has been little result, if we except the International quarantine maintained at the Suez Canal by the French, and the Consular system of notification inaugurated by the United States. At these conferences, with all the conservatism underlying the action of diplomatic representatives, the views of the technical delegates, while not always fully adopted, have not seemed too radical, and the mere fact of the calling together of these conferences, is itself proof that Nations are now acting in formal recognition of the necessity of a new chapter in the International Sanitary Code.

I speak of the "International law," although it is well known that "there is no legislative or judicial authority, recognized by all Nations, which determines the law that regulates the reciprocal relations of States." (Wheaton.) But there are interpretations of the *jus gentium* which, by common acceptance and long usage, have been the guiding principles on which diplomatic disputes have been settled for many years.

Without entering upon the question of whether it is strictly correct to use the term *law* as applicable to mere rules governing the conduct of independent Nations with one another, we may at least admit that there are certain moral obliga-

tions resulting from natural rights, which Nations at peace respect and observe. Mr. Madison defines International law as "consisting of those rules of conduct which reason deduces as consonant to justice, from the nature of the society existing among independent Nations, with such definitions and modifications as may be established by general consent." (Wheaton.)

"To this favor, then, we come at last" in discussing this question, that whatever is done or admitted, is by general consent. Most of the terms of the International law have been settled by treaty.

One of the *absolute* rights of independent States resting upon general consent and common usage, and acknowledged as the most important, is the right of self-preservation. "This right," says Wheaton, "necessarily involves all other incidental rights, which are essential as means to give effect to the principal end." It follows logically, that preservation from epidemics falls within the rule, and a Nation should have a right to view as equal acts of hostility the sending out of a piratical craft, or of a ship infected with yellow fever, cholera or other contagious disease. That division of commerce known as the carrying trade, is too impatient of sanitary restraint, it should be stripped of its power to convey disease, and by International treaties the carrying trade may be so regulated. There need be no interference with shipping. Modern machinery of disinfection has taken the place of "detention." But even this regulation will not go to the root of the evil, for the existence of a plague centre in any country is a constant menace, and the carrying of fomites may sometimes escape the utmost vigilance.

Therefore it seems that the *jus gentium* requires that any Nation, having within its territory an agency capable of destroying or injuring another, suppress that agency. This is not a strained interpretation, for we may find the general principles recognized in the restrictions placed upon a neutral. A neutral must restrain from fitting out, or sailing of armed cruisers of belligerents, and must prevent their territory from being made the base of belligerent operations; not only that, but a reasonable vigilance must be exercised. (Wharton, International Law Digest.) And further it was claimed, and the claim has been admitted, that it is the duty of the sovereign of any country to restrain agencies likely to injure another country, such as by predatory Indians or other marauders, or mob injuries. (Wharton, loc. cit.) The diversion or obstruction of navigable waters without the consent of the injured Nation, has also been successfully claimed as a violation of International rights. Why then should not the claim be insisted upon, that under the absolute right of self-preservation, we shall demand of certain other countries that reasonable diligence in suppressing small-pox, yellow fever and cholera be displayed by those Nations owning disease-breeding foyers.

There has been a great increase in the comity between Nations in regard to sanitary matters in the past few years. The first step is clearly that inaugurated by the Vienna Conference of 1874, where the danger of cholera importation having been recognized, by general consent, the French Government took charge of the quarantine service at the southern entrance to the Suez Canal, since which time cholera has not passed beyond Egypt. It is true that cholera appeared in Europe in 1883, but it came by a different route, *i. e.*, by French troop-ships from Tonkin, and the disease was thence disseminated to Spain, Italy, Sicily, Sardinia and South America.

The next important step in International sanitation, I am glad to say, was taken by our own country. Dr. John C. Peters, of New York, in a letter written to the late Surgeon-General Woodworth shortly after a visit to Havana, wrote that "an international public sentiment should be created against the filthy and careless ways of the authorities, which cause so much suffering and death among the mercantile and public navies of the whole world." (Woodworth on Quarantine, Transactions International Medical Congress of Philadelphia, 1876, p. 1068.) That officer (Jno. M. Woodworth) in a report to Congress in 1874, had invited attention of Congress to the necessity for "prompt and authoritative information to threatened ports of the United States of the shipment of passengers or goods from a cholera infected district," and he suggested that the Consular officers of the United States should be instructed to place themselves in communication with the health authorities of their respective localities, and to advise promptly, by cable, of the outbreak of cholera, and the sailing and destination of any vessels carrying passengers and goods from infected districts. This suggestion, so eminently practical, was finally adopted by Congress in the law of April 29, 1878, which now forms the basis of our existing Consular sanitary regulations. Through the kindness of the Honorable the Secretary of State, and the courtesy of the efficient chief of the Consular Bureau, I was permitted to recast the last revision of the sanitary portion of the Consular regulations (1888), and I am of opinion that our regulations on this subject are at present in advance of those of any other country. The *Bureau Consultatif d' Hygiene*, of Paris, in its last report, invited the attention of the Minister of Foreign Affairs to these regulations, and recommended that the French Consuls receive similar instructions. Our government has gone much further in this direction. We have employed a competent inspector in Havana since 1879, who is attached to the Consulate as medical adviser, and who makes personal inspection of the shipping bound to the United States, and who

attends to the sanitary welfare of American vessels in that port. When the cholera became epidemic in Europe in 1883, by my recommendation, a medical inspector was attached to the Consulates at Liverpool, London, Havre, Bremen, Hamburg, Marseilles and Naples, who, under instructions from the Bureau, made careful inspections of emigrants, baggage and merchandise bound to the the United States. No government has yet protested against these inspections except Spain, which country took exception to the continued presence of the United States Inspector in Havana, but that powerful country withdrew the objection when it was pointed out that, without such preliminary inspection, under municipal regulations of our ports, the carrying fleet would be greatly delayed, and at some ports shut out altogether during the summer months.

Our National quarantine laws are now much more rigid than heretofore, and year by year the stations are becoming more completely equipped, but much trouble would be saved, and danger avoided, by enforcing the international rule now asked, as a right.

What excuse can exist for apathy in countries where yellow fever and cholera are respectively epidemic? It is not a friendly act for a Nation having a contagion-breeding centre, to fail in the exercise of such vigilance as might prevent the emanation of the disease germs.

I again quote Woodworth (loc. cit.). "The endemic homes of cholera and yellow fever are the fields which give the greatest promise of satisfactory results to well directed and energetic sanitary measures, and to this end an international sentiment should be awakened, so strong as to compel the careless and offending people to employ rational means of prevention."

In the volume by Dr. E. C. Wendt, of New York, on "Asiatic Cholera," New York, 1885, I wrote concerning this subject: "A National Government . . . . . during its existence as a Government, must assume certain responsibilities, among which are those affecting the physical and pecuniary welfare of the people. A Government must, under the natural limitations of human rights, take proper and necessary measures to protect its subjects against pestilence or famine by such wise and prudent acts as the necessities of the time may seem to warrant. A failure so to do would subject such a Government in the eyes of all civilized peoples to just condemnation, and as the safety of Nations makes them mutually inter-dependent, whether they will it or not, so the safety of a particular Nation is dependent upon the physical integrity of its several municipalities, as well as upon the physical integrity of its neighbors. . . . Modern Nations have tacitly recognized these responsibilities, and endeavored to meet them by 'international conferences,' rarely, however, with any view to mutual concession. At each 'conference' thus far held, the commercial phase of the question has, although purposely kept in the background, seemed to be paramount, and although there has been substantial agreement, first as to the responsibility of any Nation having epidemic disease within its borders that such disease should not be allowed through negligence to afflict its neighbor; and second as to the desirability of a synchronous united effort looking toward final eradication; yet the moment the details by which these desirable ends were to be attained were discussed, harmony was at an end, and so it has happened that each Nation for itself assumes its own responsibilities towards its citizens, and allows its neighbor to adopt in turn such independent measures as in its judgment the occasion warrants. . . . . It is, therefore, clear that international public sentiment must be created to compel these Nations owning cholera and yellow fever centres to no longer afflict the globe by their apathy and indifference to the general welfare. . . . . "Who can doubt that if the action of Russia in respect of the plague, and of the United States in regard to yellow fever, were imitated by Great Britain, Burmah and China, as regards cholera; Spain, Brazil, Central America, Mexico, the West Indies, and the occidental littoral of Africa, in regard to yellow fever, that those two diseases would speedily disappear from the earth."

There is then a plain duty before this great Association which embodies the combined medical wisdom of the United States, and that is to lend its powerful aid toward the humanitarian side of this great question. Let this Section reaffirm the Montgomery resolution, and commend it for adoption by the Association. Its object is to enhance the welfare of humanity, and its accomplishment is within the bounds of possibility.

Washington, D. C., June 15, 1889.

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## THE METHOD OF FEEDING IN CASES OF INTUBATION OF THE LARYNX BY POSITION, HEAD DOWNWARD, ON AN INCLINED PLANE.

BY W. E. CASSELBERRY, M.D.,

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Since the presentation to the Chicago Medical Society, in September last, of the preliminary verbal report on this method of feeding as just then devised by me, the subject has assumed such importance, and the method, as modified through further experience, has been so successfully practiced within a limited circle, that it is desirable to widely promulgate the device in its perfected and modified aspects.

The unavoidable entrance of food material into

the lower air-passages in process of deglutition has been the most serious drawback to the operation of intubation of the larynx. It has influenced many surgeons to reject or to abandon the procedure in favor of tracheotomy. Others have sought to obviate the danger by strictly withholding liquids—a plan which occasions in febrile patients indescribable agony from thirst, which is not relieved by the substitution of semi-solids and ice. The cry of water! water! water! from these little patients, alike when awake, during sleep, and in delirium, is yet ringing in our ears.

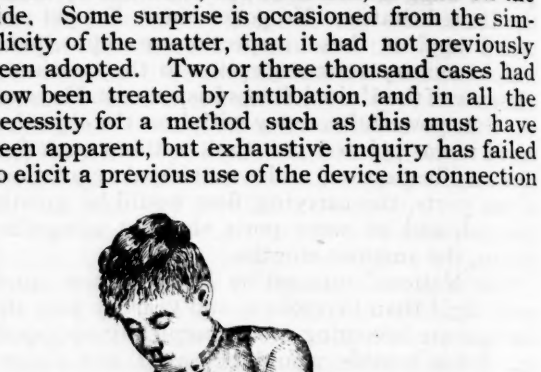
Many and ingenious were the devices to overcome the difficulty; the nasal feeding tube, the rubber epiglottis, the metal epiglottis tube, deep intubation, etc.—none of them adequate, and some of them not a little dangerous.

In June, 1888, through the courtesy of Dr. Frank Cary, I performed the operation of intubation of the larynx in a case of diphtheritic croup. We encountered the usual difficulties in feeding which I had before so frequently experienced. The nasal feeding tube was used with the customary partial degree of success only, ice was given, and still there was an incessant pitiable cry for water. We were much distressed on this account, and in despair for some expedient whereby liquid could be administered, it suddenly occurred to me to stand the child on its head and let it drink. A moment's thought sufficed to modify this radical position to one in which the inclination of the body head downward was just sufficient to prevent gravitation of liquid through the tube into the trachea, and to cause, rather, any portion which had been forced into the end of the tube during pharyngeal deglutition to flow back into the pharynx. By action of the pharyngeal and œsophageal muscles the liquid, of course, could be swallowed upward equally as well as downward, just as happens when one drinks, when leaning far over, from a spring.

In this position, illustrated in Fig. 1, the child would suck through a rubber tube from a glass and swallow without the slightest difficulty all the liquid which it desired.

In another case, treated through the courtesy of Dr. Frank Billings, a metal epiglottis tube was inserted, and an opportunity was thus afforded of testing the efficacy of the lid alone. In the upright position, with the epiglottis tube *in situ*, the patient could not swallow water or milk without coughing, indicating entrance into the trachea; while in the inclined position, head downward, it drank freely without difficulty.

The same degree of success has since obtained in other cases. Many of the younger patients will suck more readily from the nipple of an ordinary feeding bottle, although an open tube from a glass is the more rapid means with older children. A few have been found to swallow better when fed, on the same principle, in the inclined abdominal decubitus; but the inclined dorsal decubitus is usually to be preferred, on account of the facility in assuming the position and of the greater certainty in maintaining a proper angle, although it is largely a matter of suitability to the individual case, whether the child should be inclined on the back, the abdomen, or even on the side. Some surprise is occasioned from the simplicity of the matter, that it had not previously been adopted. Two or three thousand cases had now been treated by intubation, and in all the necessity for a method such as this must have been apparent, but exhaustive inquiry has failed to elicit a previous use of the device in connection



with intubation of the larynx, notwithstanding the publication by Dr. R. Norris Wolfenden,[1] in 1887, of a note entitled "A Simple Method of Procuring Deglutition when such is Impeded by reason of Extensive Ulceration of the Epiglottis," in which he described a patient suffering from the tuberculous ulceration of the larynx, who could swallow not more than a teaspoonful of liquid at a time, and "this only at the cost of much pain and terrible paroxysms of coughing," who had learned for himself and subsequently demonstrated to Dr. Wolfenden, the "wrinkle" of lying stomach downward upon a couch, with head and arms hanging free over the end, in which position he could drink a large tumblerful of water with the greatest ease and comfort.

[1] The Lancet, July 2, 1887. The Journal of Laryngology and Rhinology, August, 1887.

Regarding the exact position, an angle of inclination of 20° is suitable to most cases, although this may vary slightly in either direction.

During the process a little fluid will gravitate into the naso-pharynx, to remove which the child must be made to swallow three or four times after the vessel of liquid has been taken from its mouth, and before it is permitted to regain the erect posture, otherwise this naso-pharyngeal residuum will gravitate through the tube and excite cough.

The patient can be inclined without inconvenience for a minute or more, although less time will suffice.

One element of danger, "*schluck pneumonie*," and a vast amount of deprivation and suffering are thus removed from the operation of intubation of the larynx, which, freed from the odium attached to these disadvantages, must become more general and exhibit better results; not that the entrance of food material into the lungs is the sole cause of pneumonia occurring in the course of diphtheritic laryngitis, for this complication frequently arises apparently by simple extension of the diphtheritic inflammation downward, and occurs, at times, after tracheotomy, when deglutition is unimpaired. Indeed, in 116 autopsies of intubation cases, presumably fed in the upright position, recorded by Dr. Northrup, of New York, not a particle of food could be found in the bronchial tubes, which would seem to prove the danger of pneumonia by aspiration to have been over-estimated; but as water and milk, the materials most likely to enter, would be the most difficult of identification after death, aspiration of them in considerable quantity must still be regarded as an exciting factor, and one which is capable of originating pneumonia in the absence of other causes.

Since it is now conceded that the use of rather small and loose tubes is preferable to tight fitting ones, the danger of their slipping out while in the inclined position cannot be disregarded. The liability is minimized by using an angle of inclination the smallest that will accomplish the desired result. Feeding unaccompanied by cough is then less likely to result in dislodgement of the tube than when the erect position is maintained and violent expulsive cough is excited at every act of deglutition.

Since June, 1888, Dr. E. Fletcher Ingals has nourished thus, very successfully, five cases, and Dr. F. E. Waxham has reported thirty cases, in all except two of which, he informs me, feeding was accomplished without difficulty by this means. Of this series he saved 50 per cent., an excellent result, to which, doubtless, the improved method of feeding contributed in large measure.

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# ON THE PASSAGE OF PORTAL BLOOD INTO THE GENERAL CIRCULATION, AND ITS PROBABLE RELATION TO TOXÆMIA.

*Delivered in the Section of Practice of Medicine, Materia Medica and Physiology, at the Fortieth Annual Meeting of the American Medical Association, June, 1889.*

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The coma which occurs in some cases of cirrhosis of the liver never has been explained satisfactorily. It has been ascribed to a form of toxæmia, but just why there should be a toxæmia presenting such a history it is not easy to understand. This is but one of many interesting symptoms, the origin of which is attributed to toxic conditions of the blood—a subject just now receiving much attention.

One view of the matter appears to have been overlooked, and to this I ask your attention. It is the current opinion that the blood from the portal vein before it is fitted for the general circulation must first filter through and be modified—refined—by the liver. When the liver is congested and there is overfullness of the portal vein it doubtless happens that the blood traversing the liver is imperfectly acted upon by the hepatic cells and as a result irritating, toxic substances enter the general circulation, producing those symptoms known as biliousness. That this inadequacy of the liver does occur there is abundant authority to uphold, and I have no argument against it. On the contrary it is contended by the writer[1] that to whatever extent the liver fails to metamorphose the portal blood, to just that extent the blood departing in the hepatic vein is of the nature of portal blood, and is likely to induce systemic derangement.

We now come to an important proposition: It is that there exists inosculations of the branches of the portal with the systemic veins, which permit the flow of portal blood into the general circulation without having passed through the liver at all. Some of these inosculations are normally present, some of them are anomalous, and still others result either from diseases of the liver itself or from inflammatory processes involving its capsule and other surrounding structures.

Of those inosculations which are normally present, one of the best known is that which occurs in the hæmorrhoidal plexus, formed by tributaries of the inferior mesenteric, which terminate in the internal iliac. "The portal and general venous systems have a free communication by means of the branches composing this plexus."[2] Besides this there are anastamoses between the portal vein and branches of the vena cava; between the gastric and the œsophageal veins; between the left renal and veins of the intestine; between superficial branches of the portal and the phrenic veins;[3] [recognized by Tiernan and found

by Freirich to exist in every case in which he had injected the portal ;[4]] between the epigastric, *et al*, and branches of the portal, as first described by Sappey,[5] an anastamoses which probably is the same as that described by Luscha, [Anat. II, p. 339] as the *vena parumbilicalis*, and which he claims occurs in man and most mammals as a normal condition.

Schiff found that the circulation persisted in the liver after ligating the portal vein and the hepatic artery, and explained the fact by the entrance of blood through the para-umbilical veins.[19] Finally, Lauder Brunton[20] states that a portion of portal blood, by collateral circulation, enters the systemic veins without entering the liver. Now as to those intercommunications which occur as anomalous and somewhat rare conditions, there are reported to medical literature many well-authenticated cases. A branch of the portal communicating with the iliac vein is reported by Giacomini.[6] Another remarkable case is reported by Sperino.[7] Hyrtl[8] relates an instance of the union of the splenic vein with the vena azygos. In a very interesting article by F. Champneys[9] reference is made to a large number of similar inosculations, normal and anomalous, mentioned by Henle, Rokitansky, Cruveilhier, Ménière, Serres, Reynard and others. Further data bearing on this point may be found in the writings of J. H. Russell,[10] Ménière,[11] Peygot,[12] Burow,[13] Bamberger,[14] Klob,[15] Schulze,[16] and Monro.[17]

The fact that such intercommunications are established as a result of cirrhosis of the liver and other diseased conditions obstructing the ordinary current of portal blood, is attested by so much evidence that citations here are less necessary. In some instances there appeared such marked varicosis that the current in the vena porta was reversed, the congestion of the viscera relieved, and the ascites, previously existing as a striking symptom, was made to disappear. This passing away of ascites has been noted by many clinicians, and has generally been attributed to the causes mentioned, although it should be stated that portal systemic anastamoses of considerable size often exist while the ascites remains present. F. Champneys[9] relates an interesting case wherein dropsy subsided owing to anastomosis, and parallel cases reported by Sappey, Hoffman and Hanot, are cited by Thierfelder,[18] and, on the other hand, the same author accounts for the œdema of the lower extremities, and a relatively early œdema of the abdominal integument, by the back-flowing of the portal blood into the crural veins and epigastric veins respectively, thus impeding the return flow of venous blood to the center. It would seem highly probable that in those cases in which, after frequent tapping, the ascites entirely disappears, as stated by Flint[19] and others, the reason is to be found in the establishment of collateral portal circulation.

Anatomical evidence that collateral portal circulation is set up in cirrhosis of the liver, is extensive ; amongst other authorities may be mentioned Gubler, Lyons, Virchow, Monneret, Renaud and many besides these. It is also well known that after peri-hepatic inflammation there frequently remains adhesions which unite the liver and diaphragm to such an extent that, through many small inosculations, there is a free communication of blood from one to the other. Such unions from inflammation are not rare, and it would seem that after examining the testimony all must admit that portal blood may pass around the liver and join the blood in the systemic veins, thus escaping those elaborate changes which the liver is supposed to bring about in the blood coming from the organs of digestion ; furthermore, it would seem as though this fact were, by normal anatomical arrangement, made possible to some extent in healthy individuals ; and it appears that in some anomalous and pathological conditions the communicating passages are so extensive that torrents of portal blood may enter the general circulation in the manner described.

Let us now pass to the consideration of the second proposition, namely : The blood of the portal vein is toxic. The liver intervenes and, acting the part of a physiological quarantine station, hinders the admission of disqualified material and hence prevents toxæmia. That the portal blood varies in its toxicity there is ample proof, but that it is generally unfit for systemic circulation there is every reason to believe. In the labors of Claude Bernard, Hegar, Schiff, Lautenbach, Jaques, Brunton, Roger, Bouchard, Gautier and others, affirmation of this statement is to be found. Peptones were discovered in the portal vein, and these substances when injected into the circulation were found by Ludwig, Schmidt, Muhlheim and later observers to be poisons.

Hegar, in 1873, found that nicotine when made to pass through the liver disappeared from the economy ; Schiff, in 1877, found this true of other alkaloids; and Jacques, in 1880, found that some were destroyed in the liver and that others were stored up by the gland, at some later day to pass into the circulation, or to be excreted. Since the studies of Bouchard, Gautier, Vaughan, and others relating to animal alkaloids and extractives, we are better prepared to understand the real nature of the toxic substances which the liver is made to resist or modify, and we now more readily perceive how intestinal fermentation on the one hand, and intestinal antisepsis on the other, excites or retards the auto-intoxication well known to exist under certain conditions.

G. H. Roger,[22] in a thesis published at Paris in 1887, relates the results of numerous experiments as to the toxicity of the blood, in which he shows that the blood of the portal vein is far more poisonous than that from other sources; and he further-

more shows that the "supra-hepatic blood"—that is, blood immediately after leaving the liver—while far less toxic than that in the portal, is more toxic than than which circulates in the other veins. To this matter we shall after a time recur. It would seem unnecessary to devote further time here to the demonstration of a theory which is pretty well determined.

Having shown that the blood of the portal vein finds more or less ample channels for flowing into the general circulation without passing through the liver, and having shown that the portal blood is always more or less toxic, and sometimes intensely so, it is now incumbent to answer the natural inquiries, first, Why is it that there is not in all individuals an ever-present toxæmia, occasionally reaching a dangerous, or even fatal degree? And second, Why is it that when free anastamoses occur as a result of cirrhosis of the liver or other affections, coma, delirium, diarrhœa, propeptonuria and glycosuria do not occur as persistent symptoms? Admittedly these questions must be answered, and in turning to the reply let us first consider the next proposition, which is: Normally there exists in the portal vein a lower blood pressure than in the systemic veins. It will be seen that as a natural result of this, instead of the portal blood coursing into the systemic veins, in health the systemic blood would find its way into the vena porta. The low pressure in the portal vein is doubtless determined by the pump-like action exerted on the liver by the diaphragm during respiration, and by the fact that, unlike the veins of the general system, the branches of the portal lack the support and pressure of the muscles. However it comes about, it is maintained, as stated by Lauder Brunton,[23] that the blood-pressure in the portal vein is very low.[25]

Is it not reasonable to suppose, then, that this difference in blood-pressure is the means by which nature protects the system from the toxæmia which would probably follow the free passage of portal blood into the general circulation?

There can be no question, however, but that when the anastamoses are very large and numerous, the inflowing systemic blood would soon practically equalize the pressure, but even in these cases the tendency would be towards the portal current and not away from it, save in instances of obstructive liver disease or the equivalent. So it would appear that under ordinary circumstances toxæmia would not result from even free anastamosis.

But extraordinary circumstances occur. From indiscretions in diet, from sedentary habits, from the irritation of drugs, or from exposure there supervenes a congestion of the liver, an obstacle to its circulation; from this impediment to the portal stream there is established an unusual portal pressure, a pressure greater than that in the systemic veins. Naturally the portal blood freighted with its peptones, its bile, its animal alkaloids and all its poisons, finds its way in greater or less proportion into the general circulation and toxæmia is the result. How often are there cases accompanied by hæmorrhoids, tenderness over the hepatic region, languor, a coated tongue, anorexia, headache and the multiplicity of toxæmic symptoms; how often do we give cathartics to deplete the portal circle; and how often success follows our measures. Certainly such experiences are suggestive, but they are not so conclusive as are those which we have in cases of cirrhosis of the liver, when the portal vein is always found distended, when from collateral circulation the neighboring veins are enlarged—when from anatomical[24] as well as from physiological reasons we may be sure there is a blending of the streams.

And finally, when ascites disappears and the other signs and symptoms of cirrhosis continue, the most doubting must confess that here, indubitably, the portal blood invades systemic veins, and produces certain results. To name these results would be to mention many of the symptoms of hepatic cirrhosis, the most striking of which is that one spoken of in the begining of this paper—the coma of cirrhosis—a symptom for which J. Hilton Fagge confessed himself unable to account.

But, I have been asked, why is it that this symptom is so rare in a disease which is so common? Why is it that patients do not present symptoms of intense toxæmia more persistently? Why is it that acute symptoms follow a temporary obstruction of the liver while insignificant symptoms attend a chronic obstruction? In reply I would suggest that this is quite parallel to what ordinarily happens in other acute and chronic maladies; that the organism gradually accommodates itself to circumstances. A further answer may be found in the following proposition, viz.: When the integrity of the blood is not seriously diminished it is equal to the metabolism of nutritive substances, and to the destruction of toxic substances, coming to it under certain conditions. Any man may satisfy himself of this by remembering well-established facts in physiology. The blood in the hepatic vein is more poisonous than that in the vena cava. After a meal it contains glucose, fat, albumens, and sometimes peptones. Further along in the veins they disappear; what has become of them?

The thoracic duct carries besides fat, proteids, glucose, extractives, etc., to the vena cava. They disappear in the blood; and one must admit that this fluid has a function of assimilation and disassimilation that reminds a person wonderfully of the liver. Perhaps we do not sufficiently recognize how the organs lend and borrow; and that neighborly kindnesses in services rendered exist

inside as well as outside of us. At any rate, proof of this function of the blood can be seen unmistakably in what takes place in the portal vein; for, whereas at its beginning it, during digestion, is found loaded with peptones, these, in good health, have almost entirely disappeared before reaching the liver. It is apparent that these statements must pass unchallenged, and so, I think, will the proposition.

Now it seems to me that the blood is for a period able successfully to oppose, and partly to appropriate that which the portal empties into it; but there comes a time when its integrity is diminished, when its resistance is overcome, and then its toxicity in one respect or another becomes such that definite symptoms thereof become apparent. It would be interesting, perhaps, in this connection to make some reference to lithiasis, glycosuria, transient albuminuria, etc., and to those individuals who, during life, are cachectic, splenetic, and sick, but who show on autopsy no lesions which adequately explain the condition; but circumstances will not permit.

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## DISCUSSION.

DR. J. H. MUSSER, of Philadelphia, congratulated Dr. Stockton on the very ingenious arguments he produced to maintain his thesis. The question, however, obtains so much of a physiological aspect that he felt quite incompetent to discuss it. Clinically he had never seen any cases of hepatic coma, so-called, or the coma of cirrhosis, that could not be accounted for either by cholæmia, uræmia, or a toxæmia due to loss of function of the liver. This, of course, was only his experience. He would state that in all cases of hepatic coma there was either pneumonia, active congestion of the lungs, or some inflammatory condition, however small, sufficient to overthrow the balance of the economy, and hence disturb the functions which destroy any deleterious matter in the blood, if such is the power of that tissue, or to interfere with glandular activity by which ptomaine-poisoning or the like is made possible. Such disturbance of the circulation and nervous system as a local inflammation induces coma will cause such changes of function as Dr. Stockton argues to arise from other circumstances.

DR. OSLER, of Baltimore, thought that the point referred to by Dr. Stockton is one of serious import. He was not sure, however, but that it is only partially true. He doubted whether the question thus received its solution. He believed that the collateral circulation is a constancy. This must meet the blocking up of the channels. The same condition obtains as in narrowing of a valve of the heart. Every one has found in post-mortem examinations, extreme cirrhosis of the liver without a single symptom during life, and yet in such instances a great proportion of the portal blood passed into the general circulation. Furthermore, in cases of fibroid obliteration of portal vessels, the portal blood for years passes through the circulation.

DR. TREMAINE, of U. S. A., thought that the essayist had made a mistake in regard to the portal circulation; it is part of the venous circulation only interposing the liver. The purposes for which the venous blood passes through the liver are not clearly understood. He would rather explain the results by a defect on part of the action of the cells, whose office it is to eliminate the toxic elements.

DR. H. A. HARE said that he thought perhaps Dr. Stockton had lost sight of the more recent studies of Schiff and Lautenbach, viz.: that any capillary network is capable of rendering blood containing toxic substances innocuous. The lungs, for example, are similarly destructive agents. Capillaries are oxidizing agents *per se*, as a shallow pebbly brook is an oxidizing agent. That oxidation does occur is proved by the high temperature of the blood leaving the liver. Further, all peptones are not poisonous, but it is rather the pana-peptone, or hemi-albumose, which is abnormally absorbed and caused toxæmia. Peptones are normally absorbed, and predigested food by the rectum ought to cause toxæmia if all peptones were poisonous. Again, the argument of Dr. Stockton is faulty since the inoculations are constant and the toxæmia is rare.

DR. STOCKTON, in reply, said he felt much gratification over the discussion to which the paper had given rise. He did not consider that the

[1] Nutrition in Lithæmia, Stockton, Trans. N. Y. State Medical Assoc., Vol. ii, p. 371.
[2] Gray's Anatomy, 1887, pp. 632 and 634.
[3] Physiological Anatomy, Todd & Bowman, 1859. Vol. ii, p. 348.
[4] Diseases of the Liver, Wood's Edition, Vol. ii, p. 81.
[5] Sappey. Traité d'Anatomie, 2d edition, iv, Paris, p. 329. Also Bulletin de l'Académie de Médicine, Paris, 1859, Tom. xxiv.
[6] C. Giacomini; Giorn, d. R. Academia di Med. di Torino. Torino, 1873, xiv; ser. 3, 584-621; 2 tao.
[7] Sperino, Torino, 1879. Repr. from Giorn d. R. Acad. di Torino.
[8] Mediz. Jahrbüches der K. K. Oesterreichis chen staaten. Bd. xxvii, and in Luscha. Anat. des menschlisden Branches, p. 338.
[9] Jour. of Anat. and Phys., London, 1873, vi, 417-420.
[10] Idem, 1873, viii, 149.
[11] Arch. gèn. de Méd., Paris, 1862, x, 381.
[12] Quoted by Cruveilhier, Anatomie pathologique, 1838, Vol. 2.
[13] Archiv. fur Anat. und Phys. von I. Muller, Berlin, 1838.
[14] Schmidt's Jahrbücher, Leipzig, 1857.
[15] Leitschr, d. Gesellsch. d. aerzte zu Wien, 1859, ii, 46.
[16] Disput. anat. select. V. Albertus Haller, Göttingen, mdccl.
[17] Elements of Anatomy, 1825, ii, 282.
[18] Ziemssen's Cyclopædia, Vol. ix, p. 189.
[19] See Diseases of the Liver, p. 20. Dujardin-Beaumetz, Am. ed., 1888.
[20] Lauder Brunton, Disorders of Digestion, p. 23.
[21] Idem, p. 43.
[22] In Thesis, Paris, 1887, Action du foie sur les poisons, p. 97, chap. iv.
[23] Disorders of Digestion, p. 25.
[24] Dujardin-Beaumetz. Diseases of the Liver, p. 153.
[25] I am permitted to mention a series of experiments made by my colleague, Prof. Julius Pohlman, of Buffalo, demonstrating that in each of a number of dogs examined—some while fasting, some just after eating, some between fasting and feeding—the blood-pressure of the portal vein was far below that in the systemic veins. During digestion the portal pressure was increased, but it was never near the pressure in the systemic veins. These experiments will be published.

criticisms, in the main, were contrary to the claims made in the paper. Notwithstanding the late investigations mentioned by Dr. Hare, the fact remains that peptones disappear in the blood without passing through a capillary network. The claim made that the blood-pressure in the portal vein is lower than in the systemic veins, thus making a protection to the systemic circulation, was not spoken of. This should be explained. When the portal pressure becomes the higher, toxic conditions appear; and but for the action of other organs than the liver, and of the blood to purify itself, more conspicuous symptoms would appear. When the resistance of the blood fails, then toxic symptoms do occur.

## MEDICAL PROGRESS.

ON A NEW DIURETIC IN HEART DISEASES.—Experiments and investigations made by M. GERMAIN SÉE (Paris) concerning the effect and value of milk in heart diseases, have led to the following conclusions:

1. Lactose constitutes at the same time the most powerful and the most inoffensive diuretic. It alone imparts to milk its diuretic properties. The other principles of milk, especially the water and the salts, have no manifest or useful effect, the chlorate of soda does not add anything to the polyuria, which is due to milk sugar, and even the salts of potash have but a limited action.

Milk taken in quantities of 2 litres causes diuresis, but in quantities of 4 litres (each of which contains 50 grams of lactose) it induces at the same time a pronounced glycosuria, a transitory diabetes, as a quantity of 200 gr. of sugar thus absorbed is eliminated by the urine. At the same time a considerable excretion of urea indicates a destruction of the albuminates. There is consequently glycosuria and azoturia at once.

Milk sugar renders it possible to avoid these inconveniences and dangers. One hundred gr. of lactose in a draught produce an enormous diuresis which we are not sure to obtain with 4 or 5 quarts of milk. With the lactose there is neither glycosuria nor azoturia. In milk the effect of lactose is impeded by caseine and fat.

2. The polyuria resulting from the internal use of 100 gr. of lactose exceeds all the other artificial polyurias; it increases rapidly to 2½ litres, and almost constantly rises to 3½ and even to 4 and 4½ litres on the third day. Then it remains stationary or decreases to 2½ litres for several days. During that time the dropsical symptoms disappear with almost absolute certainty, the blood is freed from hydrates, and this is the reason why the diuresis is no longer as intense as at the beginning of the treatment. But after a few days of rest another dehydration of the blood and resorption of dropsical accumulations may be obtained in the same way.

3. Effect on dropsy of cardiac or renal origin. It may be said that lactose has a sure effect on dropsy of cardiac origin, but its action is doubtful or even nothing in dropsy of renal origin. In affections of the heart it fails only in cardiacs where the kidney is affected with Bright's disease, and when the albumen increases to 0.60 or 1 gr. per litre. As long as the quantity of albumen is small the result is favorable, which leads to the supposition that in these cases there is no renal lesion, but simply a stagnation of the blood. By diuresis from lactose the degree of alteration in the kidney may also be measured.

4. Time for the cessation of the diuresis. Administration of lactose. Sometimes the diuretic action is found to be interrupted by causes other than lesion of the kidneys. A diarrhœa may ensue which naturally diminishes the diuresis. In other cases the patients have for a longer or shorter time profuse sweats or accidental transpirations which diminish the polyuria, but it soon reappears.

The medicine is generally well borne. It should be given for eight or ten days, which would suffice to bring about a noticeable dehydration of the blood; then a pause is made of a few days, when its administration may begin again. The lactic draught is somewhat insipid, but its taste may be improved by adding a little brandy or peppermint. In all cases it is of importance to diminish or even to stop all other drinks, including bouillon and especially milk, which becomes useless as a diuretic, and encumbers the stomach and impedes digestion of other nourishments. Also in this respect lactose has great advantages, as it permits the patient to eat all kinds of food, even meats, which are often indispensable to sustain the sinking forces of a cardiac patient who has arrived at the last stages of the disease.

5. How lactose acts. Therapeutic comparison with other diuretics. The above facts being known the question arises concerning the mode of action (which might be called physiological) of this new diuretic. We know that diuretics often act through the high blood pressure which they cause, but with the present substance pulse and pressure are not altered. The alkaline salts are credited with producing the diuresis by virtue of their osmotic power, and especially the salts of potash possess this. But we do not obtain any better results by adding 2 gr. of potash to each litre of lactose potion than by the lactose alone. As the latter does not pass the kidneys it can act only through osmosis, and we must admit an elective and selective action of lactose upon the secretive elements of the kidneys; it is a renal physiological diuretic.

On comparing it with the other diuretics we find the following: Those which augment the blood pressure, the cardio-vascular substances, to wit: digitalis, convallamarine, strophanthus, act

much more feebly, less surely and less effectively upon dropsy than lactose. Bucquoy, with his well-known honesty and genuine scientific mind, has recognized its superiority in this respect to strophanthus, which he himself had favored.

A second group of diuretics, the only one thoroughly established so far, comprises the renal diuretics proper, in the first place caffeine. It forms part of a chemical series which begins with xanthine, includes theobromine and ends with caffeine, the most methyled of these substances. It is already known:

1. That caffeine and theobromine are renal diuretics like lactose.

2. That both of them act independently of vascular pressure, for one may cut the vaso-motor centres and destroy the vascular nerves without hindering in any way the caffeine diuresis.

3. That they have no tonic effect upon the heart, as was supposed, and in this regard they likewise resemble lactose. But caffeine causes nervous and cerebral troubles unknown to lactose.

6. We possess, therefore, in lactose, the diuretic for heart troubles at the asystolic period, the genuine cure for dropsy of cardiac origin, even for those kinds of dropsy which resisted other polyuric agents. In asystole there is another extremely dangerous accident liable to occur—dyspnœa; against this lactose is powerless, so it must be aided by iodide of potassium. This substance constitutes through the iodide and the potassium the proper medicine for heart and circulation. It lacks only diuretic power. To meet all indications iodide should be combined with lactose.—*Le Bulletin Médical*, No. 47, 1889.

DIAGNOSTIC SIGNIFICANCE OF INCREASE OF THE KNEE PHENOMENON AND OF THE FOOT CLONUS.—In an interesting article on this subject by TH. ZIEHEN, published in the *Corresp. Bl. des Allg. ärztl. Vereins von Thüringen*, No. 1, 1889, the author arrives at the following conclusions: An increase of the phenomenon in both knees may be regarded as morbid, and significant only if foot clonus exists at the same time. An increase of the phenomenon in one knee only is always a symptom of disease. In healthy adults foot clonus is extremely rare, consequently a pathological symptom. In children, even when healthy, foot clonus occurs parallel with a physiological increase of the tendon phenomenon; especially in early years increase of the knee phenomenon seems the rule. For adults the following holds good: Foot clonus not accompanied by other marked objective symptoms is indicative of epilepsy or neurasthenia; with hemianæsthesia of the sensitive nerves; of hysteria; in acute atrophies of amyotrophic lateral sclerosis; with simultaneous intestinal trembling of multiple sclerosis; foot clonus with spastic-paretic walk of spastic spinal paralysis and progressive paralysis; with disturbance of speech and idiocy of progressive paralysis, multiple sclerosis and epilepsy; with anæsthesia and paralysis of the lower half of the body; of dorsal and cervical meningitis. Foot clonus on one side with hemiplegia or monoplegia of one leg indicates a cerebral organic or hysterical affection more frequently than a spinal organic affection.—*Wiener Medicinische Wochenschrift*, No. 33, 1889.

REGARDING THE CENTRES OF INNERVATION OF THE SMALL INTESTINE.—J. PÁL and J. E. BERGGRÜN studied in Stricker's laboratory the changes in the peristaltic movements of the intestines under the influence of vagus irritation on dogs poisoned with curare, and found (*Med. Jahrbücher*, 1889) that the movement of the small intestine (jejunum and ileum), after irritating the peripheral vagus pedicle, did not ensue regularly until the spine had been cut in the neck. They inferred from this that by cutting the spine in the neck impediments are removed which prevented the peristaltic movements before cutting. Further experiments showed that the obstructing fibres extend through the medulla oblongata and as far as the gyrus sigmoideus. From the fact that after cutting brisk injection of the intestine followed, the authors concluded that vascular nerves run alongside these inhibiting fibres. The irritability of the duodenum from the vagus does not follow that of the jejunum, but that of the pylorus region of the stomach, as previous experiments have shown.—*Wiener Med. Wochenschrift*, No. 23, 1889.

ON THE DISTINCTION BETWEEN KOCH'S BACILLI AND THE BACILLLI OF FINKLER-PRIOR.—M. SCHENK (Vienna) tried to raise microbe cultures on the albumen of the lapwing eye, and succeeded in discovering differences in the evolution of microbes the distinctive character of which had not previously been found. So the cultures of Asiatic cholera (Koch) and of cholera nostras (Finkler-Prior), which had not appeared so far to be different, acted differently on albumen of the lapwing eye. The bacillus of Finkler-Prior liquefies and discolors the centre of the culture, whilst that of Koch leaves it intact.—*Le Bulletin Médical*, No. 45, 1889.

ON HYSTERICAL COXALGIA.—M. BALLET presented to the Société de Biologie a patient who had all the symptoms of a genuine coxalgia: flexion with slight abduction of the thigh, atrophy of the muscles, etc. It was only a case of hysterical coxalgia, however; the remains of an ancient hemiplegia of the same nature, resulting from excessive use of alcohol. This fact is interesting, since it proves once more that hysterical paralysis may be accompanied by atrophy.—*La Sémaine Médicale*, No. 27, 1889.

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SATURDAY, AUGUST 24, 1889.

## THE FORMATION OF GALL STONES.

The rationale of the formation of gall stones is not well understood. We know they are usually formed in the gall-bladder, and they may also form in the common, the cystic, the hepatic duct, and in the intra-hepatic ducts. They occur most often in the female, and usually in middle life. Sedentary habits and local peculiarities of climate are seemingly predisposing causes. Taurocholic acid or taurocholate of sodium is the agent which holds the solids of the bile, cholesterin, biliary pigments, lime, salts, etc., in solution. Why these solids should be precipitated to form calculi is the point in doubt. Foreign bodies in the biliary passages will form nuclei for calculi, and calculi with parasites, fruit seed, particles of mucous have been found in the ducts, but rarely, if ever, in the gall-bladder. Evidently other causes must exist. It is known that fermentation of the bile will cause a precipitation of its solids. Retention of the bile in the gall-bladder and ducts, from any cause, will render the bile less fluid by the absorption of the watery portion, and favor precipitation of the solids. F. MARCHAND (*Deutsche Med. Wochenschrift*, 1888), believes that tight lacing and the corset liver (*Schnur Leber*), is the cause of the more frequent occurrence of biliary calculi in the female. In many post-mortem examinations he has verified his observation. The pressure of the corset or waist-band is applied over the neck of the gall-bladder or cystic duct, causing retention of bile, and consequent condensation of it. A rough condition of the mucous membrane of the biliary passages and gall-bladder will also favor the formation of calculi. Carcinoma of the gall-bladder or ducts is usually complicated with calculi. This formation in carcinoma is also due doubtless to retention of bile.

Catarrhal inflammation of the biliary passages is said by most authorities not to predispose to, or cause, the formation of calculi. That this is an erroneous idea is proved by clinical evidence. In chronic catarrhal duodenitis or gastro-duodenitis the biliary ducts often become involved, causing sufficient retention of bile to so condense it that perfect casts of the common bile duct are often found in the fæces. That such casts are not oftener found is doubtless due to the non-examination of the fæces. It is fair to infer that a chronic catarrhal inflammation may extend from the bowel through the ducts to the gall-bladder. With such an inflammatory progression, would naturally go the fermentative germs of the bowel. Such a condition would directly favor the precipitation of bile solids in the gall-bladder; that is, retention from partial or complete temporary occlusion of the hepatic duct, and fermentation of bile through the zymogenic germs from the bowel. The increased mucus in consequence of the inflammation would also be present to form nuclei. Chronic catarrhal duodenitis is a very common disorder, and occurs more frequently in females than males, probably because females take relatively more of the hydrocarbons than males.

## SUGGESTIVE THERAPEUTICS.

Very little scientific attention has been given to hypnotism in this country, and an opportunity is now presented to American physicians to become acquainted with the subject as presented by DR. H. BERNHEIM in his treatise on the nature and uses of hypnotism, which has been recently translated by Dr. Christian A. Herter, of New York.

The hypnotic state, according to Bernheim, is not the exclusive lot of rare neuropathic cases. According to Liébault one-fifth or one-sixth of all subjects are hypnotizable, and while some of the susceptible are hard to hypnotize, most of them can be overcome by a little perseverance and determination on the part of the operator. The hypnotized person is by no means a lifeless

body, or one in a state of lethargy, as some may imagine; though he is inert he hears, is conscious, and often shows signs of life. He may laugh, or try to smother a laugh. He may remark upon his condition. He sometimes pretends that he is cheating, or that he is trying to be obliging. The majority, however, feel that they are influenced; that they are in the power of the operator. Hypnotism manifests itself in different ways in different subjects. There may be simple drowsiness, or other induced sensations, as heat, pricking, etc. This is the lightest influence. When the suggestion affects motility there may be more marked effects, the cataleptic condition may be developed, there is inability to move, and there are contractions and automatic movements. When the suggestion affects the will and causes automatic obedience it is still more decided. All these manifestations of motion, will, and even sensibility, says Bernheim, can be affected by suggestion with or without sleep, and even when it is powerless to induce sleep. In a more intense degree suggestion produces sleep or the illusion of sleep.

To define hypnotism as induced sleep, says Bernheim, is too give too narrow a meaning to the word; such a definition overlooks the many phenomena that suggestion can bring about independently of sleep. Bernheim defines hypnotism as the induction of a peculiar psychical condition that increases the susceptibility to suggestion. It is often true that the sleep that may be induced facilitates suggestion, but it is not the necessary preliminary. It is suggestion that rules hypnotism. Suggested sleep does not differ from natural sleep. The same phenomena of suggestion can be obtained in natural sleep, if one can succeed in putting one's self into relationship with the sleeping person without awakening him. The new idea that Bernheim proposes concerning the hypnotic influence, the wider definition that he gives to the word hypnotism, permits us to include in the same class of phenomena all the various methods that, acting upon the imagination, induce the psychical conditions of exalted susceptibility to suggestion with or without sleep. Such is the case with fascination induced by a brilliant object, or by the gaze. Some subjects submit to the influence without sleep; they are susceptible to suggestions in the waking states. They remember afterward what they have done, and do not know why they were unable to keep from following and gazing at the operator. Others do not remember what has happened; they have been in a somnambulistic state with the eyes open. In this somnambulistic fascination catalepsy and hallucinations may be induced, often by a simple word, a gesture, or a position communicated to them without previous fascination.

Various phenomena are manifested or may be induced in hypnosis. Nervous subjects sometimes have muscular twitchings of the limbs and febrillary contractions of the face while asleep; but the majority are inert, or become so after suggestion. Sensibility is more or less modified; in light sleep it is preserved; in deep sleep it is diminished or totally destroyed. In a few cases the hypnotic insensibility is enough to enable the most difficult surgical operation to be performed; but hypnotism can by no means take the place of ether and chloroform. Changes in motility are more easily induced than changes in sensibility. But a deeper degree of hypnotic suggestion is required for the induction of automatic movements than for simple catalepsy. Suggestion also induces paralysis as well as contracture. This suggestive paralysis has special characters, which may be distinguished from other paralyses of organic origin. At the will of the operator general sensibility and the special senses may be modified, increased, diminished, or perverted, and in the advanced degrees of hypnosis all illusions and hallucinations may be successfully carried out with great precision, and all actions that the operator commands are successfully carried out.

According to Braid the pulse and respiration are at first slower than normal in hypnotism; but as soon as the muscles are put into activity a tendency to cataleptiform rigidity is produced, with increase of the pulse-rate and rapid and laborious respiration. Heidenhain noticed an augmentation of the salivary secretion, and Tamburani and Seppili noticed that at the time of the transition from the waking condition to the hypnotic state, the respiratory movements became irregular, unequal, and more frequent, the cardiac and vascular pulsations increased, and the face was congested. But Bernheim claims that these symptoms are not induced in patients hypnotized by the quiet method of suggestion, who retain their mental tranquility; nor by those that having been al-

ready hypnotized several times go to sleep with confidence and without emotion or agitation. Suggestion may act upon the vaso-motor circulation; a red spot may be produced upon the body by suggestion, or even a blister may be raised, and hæmorrhages and bloody stigmata may be induced. Bernheim suggests that experiments might be instituted to determine to what degree imagination may influence certain functions in the waking condition. We know that micturition and defecation are greatly influenced by the will, idea, and imagination. By concentrating the mind upon the phenomenon, can we not also produce an increase of heat in certain regions of the body, perhaps even without hypnosis?

That hypnotic suggestion is a valuable therapeutic agent there can be no doubt. It has been employed successfully in organic affections of the nervous system. True the results obtained are often transient; but even a brief respite from the troubles of organic nervous affections is a blessing to the patient. Even in chronic and incurable affections suggestive therapeutics is not useless. It is of undoubted value in hysterical affections. It is important that the suggestion be varied and modified according to individuality, and its efficacy varies according to the subject and the circumstances. It has been found useful in various neuropathic affections, in epilepsy, insomnia, repeated headache, gastric and general neuroses, neuro-arthritis, rheumatic and nervous pains, melancholia, anorexia, writer's cramp, etc. Bernheim does not claim that hypnotic suggestion is a cure-all. He has written an interesting and instructive book upon a subject that deserves careful study.

## CONSIDERATE JUDGMENT.

Theories are of human invention, and are but portraitures of human limitations and human weaknesses. Facts have a kind of divinity above and beyond the sphere of human agencies. While theories may perish in a day, they alone are unchangeable.

The world is full of theories—while its greatest poverty arises from its need of facts. So great is the want of them, that the bringing to the light of one hitherto undiscovered practical truth renders a life worth living. And all the fine spun theories that have found their expression in successive phases of medical literature have only been abiding, as they had their foundation in fact.

It is a confession of human weakness, yet not a matter of surprise, that theories have had their birth in every yesterday; their development in every to-day, and their deaths in every to-morrow. The mesian line which segregates the knowable from the vast unknowable which lies beyond is so mysterious and so obscure, that perception, reason and judgment alike confess their weakness and the limitation of their powers. In the study of biology, of physiology, of pathology, and of their modifying environments, the student of medicine often stands as upon enchanted ground. He is painfully conscious that he is within the domain of the knowable; that grand truths are at his finger tips, and he longs to grasp and bring them clearly into light. It is just here that the majesty of great minds is manifest. The power of self-control, to calmly bide the time until beyond question a fact is clearly demonstrated, this is the crowning act of a master mind, the exercise of considerate judgment.

This power of deliberate estimate of evidence more than anything else has been the need of the medical profession in the past, and more than anything else, it is its need to-day. Fancies oftentimes overleap the facts in their haste. Men build their theories upon such foundations, only to wonder that they come to nought so soon.

What the medical profession most needs is the revelation of new facts. What best can serve the world is the revelation of such facts, and there are no such benefactors as those who are giving themselves to original research and the discovering of new truths. We have had our fill of finely devised theories. The present and the future demand is and will be for facts. And we must patiently wait for the demonstration of these facts. We are on the confines of new discoveries as to the agencies of microbes in the production of disease. We have nearly everything yet to learn with reference to their development, their potencies, and the methods of their control.

We are confronted with new questions as to the respiratory powers of the leucocytes and their agencies in the production of animal heat, and with the modifications of their form which govern the activities of their oxidizing powers. We may thus perhaps be led to apprehend more clearly the *modus operandi* of antipyretics in the control of temperatures.

We are yet to learn the connection of electricity with the trophic activities of the tissues, and by what means false growths are retarded, and even obliterated.

Many such are the questions which invite—nay, which challenge investigation, and with reference to which, while we wait in eager expectancy, we can by no means afford to form *premature opinions*. We must bide the needed time for actual demonstrations, that our conclusions may be of permanence and value. In nothing more do we need considerate judgment than in our estimates of remedial agents. Here fancy and the wildest imaginations run riot. Not a theory of cure but has its devotees; not a remedy or a nostrum but has its unqualified certificates of cure.

Men with reason and meu less gifted alike contribute exaggerated expressions of their faith in all sorts of treatments and of remedies. If ever there was need of the culture of considerate judgment it is here.

And just now, we commend this need to those who are canvassing the merits of Brown-Séquard's Elixir of Life. Let a calm and dispassionate consideration of facts on the part of those who propose to give this article serious attention precede the formation and expression of definite judgments. And we forewarn those who propose to make practical demonstration of its virtues to exercise at least the caution that Hammond enjoins, lest septicæmia and embolism and death follow speedily in the footsteps of reckless experimentation.

## EDITORIAL NOTES.

### HOME.

THE LICENSE ACT IN NEW HAMPSHIRE.—The law recently passed by the Legislature of New Hampshire for the regulation of medical practice, has had but a short life. A decision has been rendered, by a full bench of the Supreme Court, that it is unconstitutional to require a license as a prerequisite for medical practice. The medical registration act of Maine had a shorter life, even, than that of New Hampshire; since the signature of the Governor was hardly dry upon the bill before that official changed his mind and drew his pen through his name. The President of the State Medical Society, Dr. Stephen H. Weeks, of Portland, took the ground that the bill having once been signed, the subsequent erasure of his name by the Governor was null and void, and a suit at law has been going on for a year or more to determine which should hold good, the signature or the erasure. The decision has just been reached, in the Supreme Court, and this is adverse to Dr. Weeks and his contention on behalf of the bill. The importance of the registration act to the profession in that State is so great that an effort to pass a like bill *de novo* will be made by the State Society, when the Legislature next convenes.

EXAMINING BOARD FOR TENNESSEE.—Under the law recently enacted in Tennessee, the Governor has appointed the following to serve as a Board of Medical Examiners: Drs. James B. Murfree of Murfreesboro, T. J. Happel of Trenton, E. E. Hunter of Elizabethtown and Heber Jones of Memphis, all members of the State Medical Society; also W. B. Halbert, eclectic, and T. H. Hicks, homœopathist. Under the terms of the act, not more than four of the six examiners may be representatives of the same "school of practice." The Board has met and organized by the election of Dr. Murfree to serve as President, and Dr. Happel as Secretary and Treasurer. Dr. Happel is the retiring President of the State Medical Society.

THE PERIL OF A PHYSIOLOGIST.—Dr. Weir Mitchell has recently given in *The Century* a decidedly unpleasant experience which befell him him while pursuing his investigations concerning the poisons of serpents, especially of the rattlesnake. The snake generally aims his stroke with his poison-fangs with accuracy, but he may make a failure. "The serpent sometimes misjudges distance and falls short, and may squirt the venom four or five feet in the air, doing no harm. I had a curious experience of this kind, in which a snake eight feet long threw a teaspoonful or more of poison athwart my forehead. It missed my eyes by an inch or two. I have had many near escapes, but this was the grimmest of all. An inch lower would have cost me my sight and probably my life." And yet with all his wierd experiences Dr. Mitchell confesses to a certain degree of fascination for the horrid crotalus, and he actually speaks in a tone of regret of the rapidly approaching extermination of the reptile in this country. Dr. Mitchell further states that by the use of the "serpent-staff," a contrivance

which jugulates the snake close to the head, the dangers of laboratory work have been reduced to a minimum, and the physiologist has no need to bring his forehead into direct range with the thrust of the rattler's fangs.

DR. OSCAR J. COSKERY, a member of the Association since 1885, has died at Baltimore in his forty-seventh year. He was graduated from the University of Maryland in 1865 and immediately joined the volunteer staff of the State forces as assistant surgeon. He was not yet 30 years of age when he was elected to the Chair of Surgery at the College of Physicians and Surgeons, Baltimore. He was a prominent contributor to the transactions of the Medical and Chirurgical Faculty of his State, generally in regard to some question of surgery or of hospital organization. He was for many years attending physician to St. Joseph's Hospital. His death occurred on July 5th, from general tuberculosis. He was a man of more than ordinary ability and of high aims, and when we consider his relative youth he had accomplished much.

CONSTITUTIONAL LAW.—The *Legal Adviser* says: A State statute which requires every physician to procure a certificate from the State Board of Health that he is a graduate of a reputable medical school, or has practiced in the State ten years, or had passed a satisfactory examination as to his qualifications, and which makes the practice of medicine without such certificate a misdemeanor, is a constitutional regulation, and does not deprive a physician who has practiced in the State for six years before the passage of the Act of his liberty or property, without due process of law. There is no such "vested right" or "estate" in a profession that the State can not at any time impose upon its exercise such reasonable and appropriate qualifications as are demanded by the public welfare. Dent v. West Virginia, 9 Sup. Ct. Rep. 231. (The court distinguish Cummings v. Missouri, 3 Wall. 277, and *ex parte* Garland, Ib. 333, as being cases in which the alleged qualifications were, in reality, penalties imposed for past acts, and not reasonable qualifications imposed upon the exercise of professional callings. These decisions, it is said, merely decide that preachers and lawyers "can not be deprived of the right to continue in the exercise of their respective professions by the exaction from them of an oath as to their past conduct respecting matters which have no connection with such profession").

## FOREIGN.

A BENEVOLENT EMPRESS.—The Empress of Japan takes a great interest in the welfare of her suffering subjects. In a year she has contributed $7,500 out of her "pin money" to assist the Tokio Female Hospital in its good work.

THE PLAGUE IN ARABIA.—The south-west coast of Arabia, bordering on the Red Sea, is again the situation of a reported recurrence of the plague. The *Lancet* of July 20, states that active sanitary measures will be enforced to prevent the spread of the disease. The dates of former visitations of the plague, at this locality, were 1853, 1874 and 1879.

IN FRANCE an association "for the protection of the interests of the medical press," has recently been founded in Paris. The Chamber of Deputies, on a proposition made by Dr. Javal, have decided to exempt the fathers and mothers of seven children from personal or house taxes.

IN GERMANY five years is to be the obligatory period of medical study, including the term of military service. Prof. Engler, of Breslau, has been appointed to the chair of Botany in Berlin University. Dr. von Gossler, Prussian Minister of religion, education and medicine, desires to revive the study of the history of medicine in the Prussian Universities. Dr. Stahl, Professor of Botany at Jena, will leave for Java in October, to make botanical researches there.

IN GREAT BRITAIN, Prof. Robert Bentley, the venerable and able instructor in botany and materia medica has withdrawn from active labors. The British Pharmaceutical Conference meets at Newcastle-on-Tyne, on September 9. The Royal College of Physicians will coöperate with the Father Damien Memorial Committee. Surgeon-General Galbraith died at Cairo on the 31st ult. The Milroy Lectures on State Medicine will be delivered next year by Dr. Ransome, of Manchester, the Goulstonean Lectures by Dr. G. N. Pitt, the Lumleian Lectures by Dr. Hughlings Jackson. The Croonian Lectures for 1890, will be given by Dr. Ferrier; those for 1891, by Prof. Burdon Sanderson. Dr. Macon, Master of the Rotunda Hospital, has been elected King's Professor of Midwifery in the University of Dublin. The medical schools of Dublin are about to amalgamate.

# TOPICS OF THE WEEK.

### THE FUNCTIONS OF PROTOPLASM.

The Croonian Lectures delivered during the present year by T. Lauder Brunton, M.D., before the Royal College of Physicians of London, are so eminently suggestive, and so replete with instruction, that they commend themselves not only to the reading, but to an exhaustive study, by all those who seek by means of physiological research explanation of the specific actions of remedies.

We quote from his third lecture, contained in the *British Medical Journal*, his observations, with reference to cell movement, cell respiration, and its relations to temperatures:

1. MOVEMENTS OF CELLS.—On observing isolated cells, such as the leucocytes of the blood, we can see that they are endowed with life, and will continue to move about on the stage of the microscope as independent organisms for a considerable time after the death of the animal from which they have been taken. Their movements are of two kinds, viz., one of simple contraction or extension of the protoplasm in various directions, while the cell remains in its place, and secondly, movements from place to place. I call your attention specially to those kinds of movement because both are probably of practical importance. The movements from place to place enable the leucocytes, as was first observed by Addison and then by Waller, to move out of the blood-vessels. The importance of this diapedesis, and of the further movements of the leucocyte amongst the cells of the tissues has been clearly demonstrated by Cohnheim and his followers; but it seems probable that movement of the protoplasm in a cell while it remains *in situ* may be no less important.

2. RESPIRATION IN CELLS.—Kühne showed that isolated cells have the power of absorbing oxygen, by placing them under the microscope in water containing a little oxy-hæmoglobin. After a while they absorbed the oxygen from the hæmoglobin and reduced it. This reduction was discovered by looking at the solution with the microspectroscope, and noticing that it gave the band of reduced hæmoglobin instead of oxy-hæmoglobin as at first. The experiments of Ludwig and his scholars upon circulation through single organs or parts of the body isolated from the rest, and also those of Pflüger and his school upon the gases of the blood, have shown that oxidation and reduction occur in the tissues, but that the amount of each is not always the same, oxidation being sometimes predominant, and, at other times, reduction. Similar results have been obtained in living men by Pettenkofer and Voit. It was found by Harley that the absorption of oxygen and the elimination of carbonic acid by blood could be altered by admixture with various poisons. The power of quinine to lessen such processes was not only discovered by Binz, but brought by him into close relationship with the antipyretic power of the drug, and his researches formed a starting point for numerous investigations into the action of antipyretics generally.

In the admirable lectures which he gave before this college last year, Dr. MacAlister gave such a complete account of the pathology of fever that I need not do more here than just recapitulate one or two of his chief conclusions.

Increased temperature may depend upon (*a*) lessened loss of heat by radiation or conduction, or (*b*) increased formation of heat by greater oxidation in the tissues, and especially in the glands and muscles. The oxidation by which heat is formed in these tissues is regulated by two or three nerve centres within the cranium. Antipyretics, he informed us, appear to lessen oxidation within the body and diminish the formation of heat by stimulating these centres, but he did not discuss the mode in which stimulation of the thermal centres alters the processes of respiration in the tissues, and thus lessens oxidation. This point of the question I propose to take up now, but before I can deal with the action of drugs as antipyretics I must ask your attention for a short time to some observations which have been made upon the respiratory functions of the cell.

3. OXIDATION AND REDUCTION.—From such experiments as those I have already mentioned, it has been known for some time that cells possess the power of taking oxygen from the air, from liquids containing it in solution, or from substances like hæmoglobin, which contain it in a loose state of combination. To this power of removing oxygen from other things the term "reducing" is given, while that of "oxidizing" is applied to the power of giving off oxygen to other substances.

*Double Action of Hæmoglobin.*—Some bodies, like hæmoglobin, possess both powers to a large extent. A solution of hæmoglobin mixed with air absorbs the oxygen from it, and thus has a reducing action, but if this oxidized hæmoglobin be then mixed with some ferrous sulphate it gives up the oxygen to it, oxidizes it, and forms ferric sulphate. It thus loses its oxygen and becomes reduced, the ferrous sulphate having acted upon it as a reducing agent.

*Comparative Degrees of Affinity for Oxygen.*—Substances differ in the degree of affinity which they have for oxygen, it being greater in some and less in others. Thus it happens that we might draw up a scale containing a number of bodies each of which would have a greater affinity for oxygen than the one above and less than the one below it. Each one would therefore abstract oxygen from the one above it, and act as a reducing agent towards it, while it would give up oxygen to the one below it, and thus act as an oxidizing agent.—*British Medical Journal*, June 29, 1889.

### ANTISEPTIC MIDWIFERY.

In the August number of the *American Journal of Medical Sciences*, DR. HENRY J. GARRIGUES, of the New York Maternity Hospital makes special reference to the use of corrosive sublimate and creolin in obstetrical practice.

As the result of extended research he is able to cite twenty-two cases in which the use of corrosive sublimate has been attended with fatal results. In the majority of these cases he is confident that a too strong solution was used. He recommends that the solution be made 1:5000

as yielding the necessary antiseptic action, and less dangerous to the patient.

He speaks secondly of creolin as one of the latest antiseptics, and highly recommends it for thorough trial. It is obtained from English coal, and has the color, consistence and smell of coal tar, and up to 12 per cent. it forms an emulsion with water.

It is rated as second only to bichloride of mercury in antiseptic value, a 3 per cent. solution being fatal to germs in one minute. A 3 per cent. solution causes no unpleasant sensation upon the skin, but a 5 per cent. emulsion causes a feeling of smarting. Solutions of ½ to 2 per cent. are well borne upon mucous surfaces. Applied in this strength to indolent ulcers it cleanses the wounds, stimulates granulation and healing, often when all other substances had failed. It leaves the surface to which it is applied soft and pliable; and a point of special importance in its use lies in the fact that it is nearly if not entirely innocuous. The following are his conclusions as to the use of these two articles:

1. The solution of bichloride of mercury used for vaginal and intra-uterine injections ought not to be stronger than 1:5000.

2. No more than 1½ quarts should be used.

3. The fluid should be removed from the uterus and the vagina.

4. No injections should be used in normal cases after the birth of the child.

5. Intra-uterine injections should not be given oftener than once or twice in twenty-four hours, vaginal every three hours.

6. The symptoms and signs of absorption should be constantly looked for and the use of bichloride discontinued at their first appearance.

7. The symptoms and signs of abortion should be carefully looked for and the use of bichloride discontinued at their first appearance.

8. It is safest to abstain from the mercurial injections altogether until experience shows that the corrosive sublimate gives better results than any other antiseptic.

9. Corrosive sublimate should be used for disinfection of the outer surfaces of the patient, for the hands of doctors and nurses and for materials brought in contact with the patient.

10. Carbolic acid is perhaps as dangerous an injection as corrosive sublimate.

11. Other less effective germicides may occasionally answer a good purpose.

12. Creolin is an excellent antiseptic; little poisonous, a powerful hæmostatic, and makes all surfaces slippery —properties that recommend it especially in obstetrical practice.

### ACUTE ARTICULAR RHEUMATISM.

In the treatment of this disease DR. H. LINDERBORN thinks that sodium diosalicyate No. II is destined to supplant the use of salicylate of soda. "The dithosalicylic acids Nos. I and II are two isomeric bodies, each of which consists of two molecules of salicylic acid linked together by two molecules of sulphur. No. II (sodium salt) is a greyish-white powder, very hygroscopic, and easily soluble without residue in water. According to Hüppe, a 20 per cent. solution kills anthrax bacilli in forty-five minutes, in which time the ordinary salicylate has no perceptible effect; similarly with other bacteria. Four cases of polyarticular and one of the monoarticular rheumatism were treated, also one of gonitis gonorrhica complicated with iridiochoroiditis; the dose was 0.2 gram (3 grains) morning and evening—oftener in the more severe cases. The slighter cases showed disappearance of joint-swelling, pain, and fever in two days, the more severe cases in six days. One case was a relapse after salicylate treatment; nausea and noises in the ears were complained of, severe sweating occurred only when 0.8 gram (12 grains) were taken *pro die*. The last mentioned of the above cases was from another hospital, and the patient left cured in ten days. The advantages of this drug over salicylate acid are: stronger action, therefore smaller doses; tolerance by the stomach (the insoluble dithiosalicylic acid is precipitated from the sodium salt in an acid solution); and absence of unpleasant after-effects.—*British Medical Journal.*

### GASTRIC MUCOUS MEMBRANE.

The power of reproduction with which the mucous membrane of the stomach is endowed seems wellnigh incredible. PROF. L. GRIFFINI and DR. G. VASALLE, after a series of experiments upon fifteen dogs, formulated the following conclusions:

1. The mucous membrane of the fundus of the stomach, removed in dogs, for a considerable extent and in its entire thickness is always reproduced, including the peptic glands.

2. The newly formed glands are developed from the new epithelial layer which in the beginning covers the wound. This epithelial layer itself is developed from the epithelium of the glands on the borders of the wound, thus demonstrating the possibility of the development of an epithelial layer in its totality from true glandular epithelium.

3. The pepsin cells of the newly formed tubular glands are developed in the beginning through a differentiation of the cells of the tubular glands themselves, and this formation originates in the bottom of the tubules, whence the cells are pushed upward.

4. The reproduction process of the peptic glands finds its exact prototype in the process of embryonic development.

5. The reproduction was quite rapid in all the animals, which were strong and healthy and placed amid favorable surroundings. In one case the development was tardy, owing to a considerable loss of tissue (6 cm. equals 2.36 in.) and an unsuitable diet.

6. Perforation of the wall of the stomach never followed removal of the mucous membrane, even though the muscular tunic had been seriously injured.—*Deutsch. Med. Zeitung*, May 9, 1889; *The Medical Bulletin.*

### RENAL DIURETICS.

Dr. Germain Sée is studying another group of diuretics, which he calls "renal diuretics." They consist of caffeine and theobromine.

# SOCIETY PROCEEDINGS.

## New York Academy of Medicine.

SECTION ON ORTHOPÆDIC SURGERY.

*Stated Meeting, March 15, 1889.*

A. B. JUDSON, M.D., IN THE CHAIR.

### CICATRICIAL CONTRACTION OF FINGERS.

DR. A. M. PHELPS presented a patient on whom he had operated four weeks ago for restoration of motion to the fingers, which had been flexed in the palm by a cicatrix in the wrist of eight years standing. He had freed each tendon from the cicatricial tissue, and had secured healing by blood-clot, with the hope that new sheaths would be formed in the clot. The wound was dressed antiseptically, and the first dressing was changed at the end of three weeks. The prospect of recovery of motion was good.

DR. R. H. SAYRE said that Paget had long ago recognized the organization of blood-clot after subcutaneous tenotomy. The case presented by Dr. Phelps shows that advantage can be taken of it after open incision under antisepsis.

### HYSTERICAL EQUINO-VARUS.

DR. N. M. SHAFFER presented a patient, a girl of 12 years, who had been affected for ten weeks with hysterical equino-varus and rhythmical movement of the left foot. The talipes was reduced manually, but the motions were persistent. There was inability to walk, the result of the disability of the quadriceps extensor group. Before coming under Dr. Shaffer's observation, plaster-of-Paris had been applied to the limb for several weeks, but without benefit.

DR. A. B. JUDSON thought that choreic elements were seen when the patient attempted to walk. He recalled a case of rhythmical myoclonus reported by Dr. Peckham in the *Archives of Medicine*, in 1883, in which the patient had been subjected to a great variety of treatment, and finally recovered after the hypodermic use of atropin.

DR. S. KETCH suggested treatment by hypnotism.

DR. R. H. SAYRE thought that the case illustrated the fact that abnormal muscular contraction can produce degrees of deformity as marked as those caused by bony distortion.

DR. L. W. HUBBARD thought the case allied to chorea, being the result of nerve irritation or exhaustion. He suggested absolute rest or recumbency for a long period, with efforts to improve the nutrition.

DR. A. S. HUNTER had treated with success a case of hysterical hip by the administration of ignatia amara. The use of this drug in a number of cases of this kind had led him to value it highly when the disturbance was limited to groups of muscles only; but he thought it was of little value in the treatment of general choreic conditions.

DR. V. P. GIBNEY had had a favorable effect in a case of rotary spasm of the neck, from the fluid extract of gelsemium, given in five minim doses, and pushed almost to toxic effects.

DR. H. W. BERG said that the contractions in the case shown could not be due to nerve lesion, because it yielded so readily to manual replacement. Where there is irritation of motor nerves, as in spastic paralysis, it is extremely difficult to reduce the limb to a proper position. He suggested the ordinary treatment of chorea with electricity to make an impression on the mind rather than on the nerves.

The paper of the evening was read by DR. PHELPS, entitled

### THE MANAGEMENT OF HIP-JOINT DISEASE FROM AN ANATOMICAL BASIS.

In regard to the pathology of hip disease, Dr. Phelps believes that it is a local tuberculous affection, due to accidental inoculation and not to a constitutional or strumous condition. Following Volkmann, Albert, and Konig, he believes that the inflammation, at first simple, becomes tubercular by inoculation, and then purulent. The irritation of the peripheral extremities of the nerves in or about the joint produces muscular spasm, which in turn distorts the joint by trauma, aided by the bacilli of tuberculosis.

In regard to treatment, he relies on mechanical treatment, believing that if we immobilize a joint and remove the intra-articular pressure, Nature will take care of the tuberculous material. His experiments on dogs had convinced him that immobilization of healthy joints does not produce anchylosis. Encouraging motion in an inflamed joint is a violation of the surgical law that an inflamed part requires rest. He believes that the muscular spasm, which is a most serious element of destruction, should be overcome by extension, and that while extension is necessary to secure immobilization, it is not sufficient of itself. He therefore resorts to a combination of extension and fixation; the extension always to be in a line corresponding to the axis of the neck of the femur.

Treatment, as a rule, should be begun in bed, extension being made in two directions, *i. e.*, toward the foot-board and laterally, the body and well leg being fixed to a long splint extending to the axilla. If the deformity does not yield to extension properly applied, the tissues at fault should be divided subcutaneously, or by open incision. Abscesses are to be incised through their entire length, and thoroughly scooped out and washed, strict antiseptic precautions being observed. Distension of the capsule should be re-

lieved by aspiration or incision; then traction will not produce pain.

He exhibited a patient in a portable bed, which is an ingenious substitute for the wire cuirass, made with a board cut in an outline of the body, and plaster-of-Paris. The child is laid on the board, and then the whole enveloped with plaster-of-Paris bandages from the foot to the axilla. The plaster is then cut away in front, the interior comfortably padded, and the patient held in place by lacings or bandages. Extension and fixation in bed are to be continued until the active symptoms and the deformity have entirely disappeared, and the spasm of the muscles is no longer present. Adults are then given crutches, and a portable splint which has a perineal crutch, extension by adhesive plaster, an abduction bar, and an upper (thoracic) ring to prevent flexion and extension at the hip. Children, after treatment in bed, are to have the portable bed, and then the portable splint, with or without the high shoe and crutches.

DR. J. RIDLON was much pleased to hear the author of the paper take the ground that hip cases should be cured without deformity. He recalled a case of a patient in which the muscular spasm had been relieved by pinching the muscle. The child was very thin, and it was found that when the adducters were separated from the other muscles, and the belly of the muscle was pinched without any attempt at fixation, there was as much relief as could have been afforded by lateral traction.

DR. SHAFFER said that the paper had suggested to him the importance of separating in our minds the disease from the deformity. It is a question how far we are justified in meddling with the deformity, which is simply an expression, or so to speak, a symptom of the disease. In his experience, attempts at speedy reduction of the deformity had been followed by disastrous results. Nature gives a very positive indication in the acquired position of the thigh—that in which the immobilization of Nature reaches its maximum, and the diseased parts receive the greatest relief from reflex muscular spasm. If we forcibly interfere with this effort on the part of Nature, we inflict a distinct traumatism.

On the threshold of treatment, the important question is, not whether traction is to be made in the line of the shaft or the neck, but how to secure an artificial immobilization in the position nature assumes as the one that affords the most protection to the inflamed parts. He believed that if the joints were protected from traumatism, in other words, if traumatic contact of the inflamed joint surfaces is removed, and this can readily be done by the use of portative apparatus without entailing immobilization of the entire body from the head down, the joint is placed in the best known local condition.

The portative traction treatment is compatible with fresh air, sunlight, and moderate exercise, which are the best means of combating the tubercular disease, and the tubercular diathesis. More lives have been saved, and better results have been thus secured, than by any other method which has been thoroughly tested.

DR. R. H. SAYRE agreed with Dr. Shaffer as to the importance of maintaining the general health, and the inadvisability of general immobilization of the body, if the diseased joint could be controlled without it. He thought that complete immobilization of the hip-joint in young children was very difficult to secure; and that the movement that stopped short of producing muscular spasm and pain, was not harmful. For poor children particularly, he thought the portable bed was an admirable contrivance.

The relief obtained in some cases by pinching the muscle could be explained on the supposition that it stopped the reflex action of the muscle. It is known that firm constriction of the belly of a muscle will, in certain cases, abolish spasm.

DR. CHAS. L. SCUDDER, of Boston, advocated a more frequent resort to the results of experiment on the cadaver. He recalled Dr. Bradford's experiments made in 1880, in which it was found that in an adult a force of one hundred pounds was not sufficient to separate the head of the femur from the socket; while in the shallow and not yet completely ossified acetabulum of a young child, a moderate force caused separation, and still less force was required in the fœtus. Dr. Scudder believed that in hip disease of children, a tractive force of from three to five pounds would separate the joint surfaces as was illustrated at the Children's Hospital in Boston, in the case of a young boy who had hip disease and night cries. The joint cavity was opened and a small quantity of pus evacuated. While the boy was under ether, it was found that traction made with the hand separated the joint surfaces to such an extent that the finger could be placed between the head and the acetabulum.

DR. HUBBARD thought that no one at the present time held the opinion that anchylosis is caused by immobilizing the joint affected with chronic inflammation. He had found it difficult to get anchylosis in cases where it was desirable, as in disease of the knee. The first object is to give rest to joint, which is best done by traction; not to separate the surfaces, but to overcome articular pressure which leads to muscular spasm. He believed the long hip splint gave sufficient immobilization for all practical purposes. It is more easily managed than the portable bed of Dr. Phelps, which from neglect would be likely to cause excoriations. As the disease seems to be a struggle between the tubercle bacilli and the vitality of the organism, he thought it especially important to place the system in the best possible

condition to resist attack. He had rarely seen constitutional disturbance from abscesses which had been let alone, although in exceptional cases acute and painful conditions are certainly greatly relieved by surgical interference.

DR. JUDSON commended the title of the paper. It was an admission that hip disease is not to be cured by treatment, but so managed that the almost inevitable recovery by natural processes should be with the minimum of disability and deformity. He thought that more emphasis should be placed on the importance of protecting the joint from the traumatisms of standing and walking, as is done by the use of Hutchison's extra long crutches and high sole on the well foot. But in every case there are long periods of exemption from pain, when this simple apparatus will be discarded. The ischiatic or perineal crutch of the hip splint, however, cannot be willfully discarded; and when it is seen that the rack and pinion not only furnish traction, but also a convenient means of adjusting the length of the upright, the hip-splint appears to come very near perfection as an instrument for the management of hip disease. He had never recognized either the trauma said to be caused by reflex muscular contraction or the alleged mechanical counter-action of the muscle by traction. He believed, and had always held, that the hip-splint mitigates reflex muscular contraction by allaying the inflammation which gives rise to it. This it does by arrest of motion and prevention of pressure; motion being arrested by traction brought about by the use of the key, and pressure being averted by the perineal or ischiatic crutch, which makes the limb a pendent member. As the inflammation is resolved the reflex muscular contraction ceases.

The last annual report of one of our orthopædic institutions contains a table, from which it appears that there have been under treatment 371 cases of disease in the hip; 6 in the shoulder; 85 in the knee; 3 in the elbow; 27 in the ankle; and 5 in the wrist; an aggregate of 483 in the lower, and 14 in the upper extremity. Shall we draw the inference that the incipient osteitic focus is found only or chiefly in the cancellous tissue of the lower extremity, or that a focus in the upper extremity more readily undergoes resolution by reason of its comparative exemption from violence? If the latter view is correct, it follows that the limb is to be made a pendent member by the persistent use of the axillary or ischiatic crutch at the earliest recognition of the disease. In some cases, an earlier diagnosis may be facilitated by the following simple method:

Let the patient sit on a table with the legs hanging and the knees separated; in this position, swinging the leg laterally is possible only with rotation of the femur; and if one leg oscillates in a less arc than the other, it induces or confirms a suspicion of the integrity of the joint. He did not believe in treating abscesses and sinuses excepting indirectly through the general and local management of the bone disease in which they have their origin.

DR. GIBNEY was in favor of securing absolute immobilization, but sometimes he would rather have less perfect immobilization, if by so doing he could secure a change of air and climate, with the consequent improvement in the general nutrition.

Ordinary hip disease is managed satisfactorily by the portable traction splint, with or without the rack and pinion; and he had been agreeably surprised with the facility with which these patients ran around in the tenement houses. They come to his clinic only every three or four weeks for adjustment of the apparatus; and, during these intervals engage in the most active sports; they certainly do not lie in bed in dark rooms and die of pyæmia. It is unsafe to put these children in an appliance like a cuirass or the portable bed, unless one is certain of being able to see and attend to them at short intervals. It had been his lot to see cases in which he had been unable at times to obtain proper co-operation on the part of the patient's family. He had often seen abscesses burrowing up to the spinal column and down to the knee; and such cases seemed to baffle even attempts at surgical interference. We must be guided a good deal by circumstances, and if we can protect the hips from trauma and give the patient the benefit of outdoor exercise, abscesses will generally be insignificant.

He believed in correcting the deformity speedily, if necessary by dividing tendons and bone under an anæsthetic; for by so doing, we save much time and lose nothing. In regard to aspirating the joint over-distended with fluid, it was almost impossible to diagnosticate an over-distended hip-joint. The position of the limb does not depend on the quantity of fluid in the joint, but is due to reflex spasm, and the efforts made by the child and nature to secure fixation.

DR. J. H. GIRDNER described an experiment on the cadaver in which great force was applied without separating the surfaces of the hip-joint. He also cited a case in which it had been necessary to keep the hand applied to the face for nine weeks in the course of a plastic operation on the nose. At the end of this time, there was no limitation in the motions of the elbow and wrist.

DR. KETCH believed that hip disease is so often characterized by exacerbations that all attempts at a division into stages are of no practical value. He thought that the hip-splint could be often of use for the reduction of deformities even in those periods when the patient is confined to his bed. In general, he believed it was a great mistake to make use of any apparatus which can

be entirely left to the care of the patient or family for long periods. The explanation of the relief of pain by compression of muscles was to be found in an involuntary action on the part of the patient which secures fixation and traction at the same time.

DR. BERG, speaking from the standpoint of the general practitioner, who frequently saw children in the very beginning of hip disease, related the histories of three cases which had presented the symptoms of early hip-joint disease, and yet recovered perfectly after rest in bed for a few weeks. He now insisted on all such patients remaining in bed for several weeks before commencing any other treatment.

DR. PHELPS, in closing the discussion, said that many cases in tenement houses, whether treated by the long traction splint or by the portable bed, are deplorably neglected; but this does not argue against the use of either apparatus; it simply illustrated one of the difficulties with which all practitioners have to contend. He valued the portable bed because he desired immobilization of the affected joint, and this could not be obtained with splints having joints in them, and not including the trunk. He could relieve his patients better in bed during the period of deformity, and so adopted this method of treatment. He had seen patients in England who had been in bed for several years, and were still in excellent health. He did not, however, advocate prolonged bed treatment. Believing that the cases in question are inoculations of the bacillus tuberculosis on a previously inflamed surface, and not instances of constitutional tuberculosis, he explained the frequency of tubercular joint diseases in the lower extremity, by the statement that the joints of the lower extremities being more subjected to traumatic inflammation, furnish good ground in which the bacillus of tuberculosis could more readily reproduce itself. He had presented his honest convictions, and hoped to report his cases later in such a way that others could disprove his statements, or he could substantiate his views.

## FOREIGN CORRESPONDENCE.

### LETTER FROM LONDON.

(FROM OUR OWN CORRESPONDENT.)

*The Nature of Arrow Poison—The Proposed Inquiry into the Management of Metropolitan Hospitals—The Action of Antipyrin—Tubercular Abscess of the Breast—The Aversion of some Animals to Saccharin—Miscellaneous Items.*

Some of our medical journals are discussing the nature of the arrow poison which proved fatal to several of H. Stanley's followers during their memorable journey from the Congo to Lake Nyanza. Hitherto it has been asserted, with very little evidence in many cases, that all the arrow poisons of savages have been extracted from vegetable substances. But according to Mr. Stanley's recent experience ants are the source of the poison. Five members of the expedition were hit by these weapons and four black men died very shortly afterwards, their sufferings having been intense. The fifth man hit was a white man, and he had a very narrow escape. The poison of the arrow which hit him had become dry and so he did not experience its full effects. It was afterwards found that the poison is manufactured from the dried bodies of red ants, which are ground to powder, cooked in palm oil, and smeared over the wooden points of the arrows. Some think that this poison must consist of formic acid. Others argue that some kind of ptomaine or animal alkaloid is thus obtained from the dead ants; but as these insects are dried and pulverized and afterwards cooked in oil, it is difficult to see how any ptomaine could be formed, for these animal alkaloids are the product of putrefaction, and it is not stated that the ants are allowed to putrefy. Hence it is not improbable, as *The Lancet* was the first to suggest, that the terrible poison of these arrows is formic acid or some organic derivative of that acid, more or less allied to prussic acid.

The petition for an inquiry into the management and organization of metropolitan hospitals has been energetically taken up by a very large number of leading physicians and surgeons and others who have special means of understanding what is wanted. More than 450 medical men have signed the petition, the great majority of whom are professors, lecturers, physicians and surgeons actually connected with hospital work. There is really most excellent reason to believe that if our London hospitals and dispensaries were only organized properly there would be no need for the constant appeals for public aid in the form of hospital shows, bazaars and other wasteful means of raising funds. The petition draws special attention to the glaring defects in our present lack of system. Out-patient departments are generally gorged with a crowd of people suffering from trivial complaints. Many of the applicants belong to classes for which charity is quite unnecessary. Another great administrative flaw is the total absence of any clear and definite division of labor between voluntary hospitals and dispensaries and those provided under the Poor Law. A scheme might be devised which would create special relations between neighboring hospitals and dispensaries, grouping them together, and providing means for the transference of cases from one to the other. But supposing these points to be satisfactorily settled, there will still remain the most difficult and delicate task of all in dealing with the sporadic establishment of unnecessary

hospitals. It is absurd to allow the waste of money which takes place every year by the foundation of new special hospitals almost under the shadow of great institutions in which whole wards are lying idle for want of funds. None of these difficulties are easy to deal with, and there can be no doubt that a well chosen select committee will be able to clear up much that is obscure and suggest the outline of a better order of things.

Dr. C. R. Illingworth has published the following important suggestion: He says antipyrin has been lauded as a hæmostatic. It is his opinion that as such it acts by preventing the formation of fibrin so thoroughly and effectually that there is less resistance to the flow through capillary blood-vessels in the vicinity than into the atmosphere, and more attraction. This power of antipyrin and its allies, he suggests, should prove serviceable in the treatment of sanguineous apoplexy, reducing the lesion to a minimum, and rendering complete recovery possible in many cases if taken early enough.

An important paper was recently read by Mr. Shattock on "Tubercular Abscess of the Breast." In the course of the paper it was stated that in the cow "tubercle of the udder" was a well known disease, so much so that on the Continent its hygienic importance was generally and practically recognized. Dr. Hamilton, a distinguished Aberdeen professor, has expressed the opinion that tuberculous milk from cows may often be the cause of what is popularly known as "consumption of the bowels." He cites a case of a perfectly healthy child, born of equally healthy parents, which was given to a wet nurse to be suckled. The woman was tubercular and the child very quickly contracted meningitis and died. The nurse's milk, on examination, was found to contain the bacilli of tubercle. Both Mr. Shattock and Dr. Hamilton have been impressing upon the public the necessity for always having milk cooked before it is used. It is suggested that the addition of a little sugar to the milk when boiling gives it quite a new flavor, and makes it more palatable than uncooked milk. For those who do not like what is sweet, a pinch of salt may be put in, and that again produces a substance having a totally different taste from plain boiled milk.

It has been discovered that animals such as dogs and cats have a curious aversion to saccharin. In some experiments recently neither caresses nor threats could induce them to eat bread on which only a very small portion of saccharin had been strewn. Water sweetened with small quantities of saccharin, which was poured down their throats was instantly vomited by them. In another case a very small quantity of saccharin was mixed with the food of three cats which they only received once a day. In each case they left it absolutely untouched. In spite of their being very hungry, as was quite evident from their cries and movements, they did not meddle with the food during four hours. After this food free from saccharin was placed before them, which they quickly devoured, after they had sniffed it some time. It is considered that these experiments prove saccharin to have a peculiar odor which is easily perceived by the animals mentioned, but does not affect the human being.

The Bradshaw Lecture will be given this year by Dr. Norman Moore, of St. Bartholomew's Hospital. The subject chosen is "The Distribution and Duration of Visceral New Growths."

Surgeon Parry, of the Indian Medical Department, says he saw the jet black hair of a rebel Sepoy turn grey in half an hour, while he was under examination and half mad with fear, and he also relates the case of a gentleman who left home on his wedding tour with dark hair. When he came back a month later his hair, his beard, and even his eyebrows, had become snow-white.

A new clinical thermometer has appeared constructed with a layer of ruby red or other colored glass behind the bore, backed by a layer of opaque enamel. By these simple means the contents of the bore, as well as the divisions on the glass, are more readily made visible.

The work on Diseases of the Lungs, which occupied the late Dr. Wilson Fox during many years, is now in the press and will shortly appear. It presents the thorough method which always characterized the writings of this author. The editor, Dr. Sidney Copeland, was one of Dr. Fox's pupils. It will be in the hands of the public during the autumn. A. B.

## DOMESTIC CORRESPONDENCE.

### LETTER FROM NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

*The New Mausoleum Plan for the Disposal of the Dead—Dr. John M. Peacocke and Dr. A. N. Bell discuss the subject—Executions by Electricity—Dr. Wm. A. Hammond and the Brown-Séquard Elixir.*

Of late the new mausoleum plan of disposal of the dead has attracted considerable attention in this city. The project seems likely to meet with much favor both from sanitarians and the public at large, and a company, in which many clergymen and physicians are interested, has now been organized for the purpose of erecting suitable buildings in the leading cities of the country. While the objections to the prevalent mode of disposal of the dead are generally recognized, cremation meets with much opposition, and it is believed that this new sanitary system will be widely adopted as a substitute for burial.

The buildings, each of which will contain from

ten to forty thousand sepulchral spaces, will be constructed, in the most substantial and durable manner, of concrete prepared from the best Portland cement, sand and broken stone. Concrete is the basis, the corner-stone of the new system, and without concrete it would not be practicable. The sepulchral spaces will be constructed with conduits conveying fresh dry air into the casket, whence it is carried by forced drafts to a central furnace in the sub-cellar. To this furnace the gases and vaporized fluids of the body are thus borne, and there consumed; so that the escape into the atmosphere of any noxious matter is perfectly prevented. There are left behind the mineral and solid parts of the body, in a properly dessicated condition, with the form and features intact, and wholly inoffensive to sight or smell. The tissues become cellular and sponge-like as the moisture is extracted, and while the weight of the subject is reduced two-thirds at least, there is no marked emaciation. The process was first thoroughly tested under the observation of the late Dr. A. Y. P. Garnett, of Washington, who declared that the principle of the new mausoleum was one of scientific accuracy reduced to a practical fact. More recently the experiments have been conducted in this city under the supervision of Drs. C. I. Pardee and Rudolph St. Witthaus, of the Medical Department of the University of New York.

The mausoleum buildings will be of handsome architecture, with granite facings, and the roof constructed of glass and iron. The interior plan will resemble that of a well-appointed library, with a main corridor and diverging halls leading to the different sections. The sepulchres of solid concrete, four inches thick, seamless and jointless, will be arranged in tiers of six upon either side of the hallways, and the opening into each will be provided with two doors; the inner one of plate glass, hermetically sealed, and the outer one of metal or stone, decorated according to taste. Family vaults will be arranged in separate compartments of various sizes, and each mausoleum will have a beautiful chapel. There will be no possibility of stealing the dead, and the buildings will be absolutely fire-proof.

In an elaborate paper on "The Disposal of the Dead," read a short time since before the Medical Society of King's County, Dr. John M. Peacocke expressed himself as follows in regard to the proposed new method: "The dessicating process has many commendable features. It complies with all the sanitary requirements, and meets the medico-legal demand that the evidence of crime shall not be destroyed. The rapid abstraction of moisture by this method will do away with the factors in the production of ptomaines which might vitiate the result of a chemico-legal examination. This system is devoid of everything that can shock sensitive minds or offend refined tastes. It does not conflict with the widespread and deep-seated reverence felt for the remains of the dead. The mass of mankind looks not only with aversion but with feelings akin to horror on any process that aims at immediate destruction of the body. This may be all sentiment, nevertheless no amount of specious reasoning can readily or easily overcome the tender and universal deference for the beloved departed, for it is woven into the very warp and woof of the human heart, and has the religion, the tradition, and the custom of centuries associated with it. . . . . It is evident that the introduction of any change in the present method of disposal of the dead will naturally encounter suspicion, criticism and opposition; except in the case of the method of dessication, which seems to have been received, as far as presented, with marked favor."

In the discussion of the paper Dr. A. N. Bell, editor of *The Sanitarian*, stated that the single sentiment to which he wished to give utterance was, the necessity for so disposing of the dead as not to endanger the life of the living. In the course of his remarks he said: "There is a proposition now on foot to build grand mausoleums in connection with or independent of the cemeteries, as the case may be, where the sentiments of certain people can be gratified, if they do not wish to bury their dead, or are prohibited from, as they certainly should be in many cases, from burying them so as to endanger the living, and are unwilling to have them cremated. I mention this as only one of the means of disposing of the dead without danger to the living, because it overcomes the objection which touches the sentimental emotions of individuals who think cremation lacking in sacredness, and too rapidly destructive. . . . . But the new mausoleum process fully meets this sentiment, while it also overcomes the medico-legal objection urged against cremation, and, like it, effectually disposes of the dead without danger to the living."

In the case of the murderer Kemmler, the first criminal condemned to execution by electricity in accordance with the new law relating to capital punishment, the counsel for the prisoner some time since obtained a stay of proceedings. They claimed that the law was unconstitutional, on the ground that death by electricity is a "cruel and unusual" form of punishment, and for more than a month expert testimony has been taken before a referee in regard to the effects of electricity upon the animal economy. There can be little doubt, however, that the chief incentive for the proceedings to test the constitutionality of the law is the objection of the electric light company whose apparatus has been solicited for the execution of criminals to having it employed for this purpose, lest those using it for other purposes should get the impression that the current is dangerous to human life. The matter has in reality resolved

itself into an inquiry whether, upon the whole, the Legislature was justified in passing the law in question; and it is certainly a fact that if this appeal is successful, capital punishment will have been abolished, or at least suspended, in the State of New York, since there is no warrant in the law as it now stands for putting a man to death in pursuance of a judicial process by any other means than the application of electricity.

Still, the testimony obtained as to the efficiency of the alternating electric current for the desired purpose has been so conclusive that it seems altogether probable that this attempt to prevent the execution of the law will fail. Among the witnesses examined was Dr. A. D. Rockwell, the specialist in electro-therapeutics and nervous diseases, who assisted in the experiments made upon animals at the Edison laboratory before the law was passed by the Legislature, and he unhesitatingly testified that, from his knowledge of the subject and the experiments he had witnessed, he believed that an electric current can be artificially generated which will kill a man instantly and painlessly in every case where it is scientifically applied; also that the electrodes can be so placed upon a criminal in the apparatus proposed to be used in electrical executions that there will be no probability of his being burned. He expressed his conviction that an alternating current of 1,000 volts would always destroy life, and in this opinion he was confirmed by Edison, the electrician. In regard to an alternating current of 1,500 volts, such as it is proposed to employ in executions, Dr. Rockwell stated that he had no doubt whatever that it would inevitably kill. Such a current, he said, would of necessity produce a rupture of the muscular tissues and immediately stop the action of the heart; causing a paralysis of the nerve centres.

Mr. Harold P. Brown, the electrical expert who has contracted to furnish to the State the apparatus to be used in executions, has recently arrived at Auburn, where the prisoner Kemmler is confined, and in the presence of Dr. Carlos F. MacDonald, late Superintendent of the State Asylum for Insane Criminals, and others, he will make a series of experiments with the identical apparatus which it is proposed to use in the case of Kemmler. Mr. Brown states that he has a list of no less than ninety individuals who have been killed by contact with electric wires. Twenty-seven of these were killed by the alternating current and fifteen by the Westinghouse dynamo, which is to be used in the execution.

Dr. Wm. A. Hammond, who like most others was at first disposed to pooh-pooh Brown-Séquard's alleged discovery of the rejuvenating power of the testicle, now announces that the results of a number of experiments which he has himself made are such as apparently to confirm the correctness of Brown-Séquard's assertions. In the experiments he used the testes of freshly killed lambs, in preference to the rabbit or guinea pig, employed in France; great care being taken to thoroughly filter the solution employed in the injections. He began his experiments first on himself, to make sure that the method was not dangerous to the patient. Since then he has experimented on several old men without their being aware of what was being done to them, and in the case of one of them, he states that the result was quite remarkable. He was about 60 years of age and had his arm so nearly paralyzed with rheumatism that for nearly a year he had not been able to raise his hand to his head; while soon after one injection he could move it in any direction and almost as vigorously as he had ever done. Of course, Dr. Hammond does not claim any conclusive results with the limited number of experiments thus far made, but he says he feels justified in proceeding further with the investigation.

P. B. P.

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### Audi Alteram Partem.

*To the Editor:*—In an editorial in the last issue of THE JOURNAL which I have read with a great deal of interest, you attempt to draw a comparison between the results of the medical and the surgical treatment of acute intestinal obstruction, and you claim that whereas 30 per cent. recover after medical treatment, 68.9 per cent. succumb to surgical treatment. If you will permit me to venture an opinion upon this subject, I would suggest that you are not stating the proposition fairly. You no doubt are aware that only those patients are subjected to surgical treatment who, in spite of the old and classical opium treatment, continue to grow worse; and that operative interference is, as a rule, unfortunately delayed till the patient is greatly exhausted and his physician and friends realize that death is inevitable without the same. As in cases of intestinal obstruction, therefore, medical treatment is adopted at the very outset, and surgical treatment only resorted to after medical treatment has failed, a comparison between the results is scarcely feasible. And yet the statistics you adduce prove that, even under prevailing circumstances, the results after surgical treatment are slightly better than those of medical treatment. How much better they will be in future, when we have learned the important lesson that in order to prove successful, grave operations have to be undertaken in "good season," can only be surmised.

I have noticed with a great deal of regret that in recent editorials of THE JOURNAL an effort is made to discourage grave operations, particularly in obscure abdominal affections; for every unbiased physician will readily admit that especially in abdominal affections operative interference has been crowned with marvelous success, and that

thousands of lives are now saved that without such interference would be doomed to an early death. And I am persuaded that even to-day ten lives are lost for the want of timely and early surgical interference to every one sacrificed by an unnecessary and premature operation. Within the last year I have seen two patients with strangulated herniæ die; in both cases the incarcerated intestine had sloughed, and yet the attending physicians seemed to think that they had done their duty to their patients by feeding them on opium and letting them die.

Every practitioner knows how much a patient dreads the knife and how difficult it is, as a rule, to obtain his consent to an operation which really offers the only chance for his recovery. Every one knows, too, how often even physicians discourage operations, even in cases where they are imperatively demanded, for no other reason than that they are not prepared or unable to perform the same.

It would seem that for these reasons it is of questionable prudence for any prominent medical journal to deprecate any operation which already has saved many lives, and which will in the future, as the technique of the same becomes more and more improved, undoubtedly show a still larger percentage of recoveries.

H. H. VINKE, M.D.

St. Charles, Mo., August 16, 1889.

## NECROLOGY.

### Dr. James L. Cabell.

Dr. James L. Cabell, who died at Overton, Va., on the 13th inst., was one of the early members of, and a frequent contributor to the reports of the American Medical Association. He was for more than fifty years identified with the University of Virgina, in its department of medicine. He was an alumnus of that University in 1833, in arts. He obtained his medical degree at the University of Maryland in 1834. He studied abroad and at home, for three years, preparing himself for the professorship at Charlottesville, which came to him in 1837, when he was only 24 years of age. His first chair was that of anatomy and surgery. He continued with the University until the end of the session recently closed, when he retired to make room for his former pupil, Dr. Barringer, his health rendering the step expedient. He was prominent in his State Medical Society, and in the American Public Health Association, becoming the presiding officer of each in 1876 and in 1878, respectively. He was Chairman of the Health Conference at Washington, during the epidemic of yellow fever at Memphis. His eminence in the field of public hygiene led to his appointment as president of the National Board of Health, a position filled by him for several years with great advantage to the public service and to the cause of sanitary science in this country. He was the recipient of many honors and a member of many important societies, nearly all of which profited, from time to time, by the contributions of his learning and ripe judgment. He was in his seventy-sixth year at the time of his decease.

### Dr. Alexander Mott.

The readers of THE JOURNAL will regret to learn of the death of Dr. Mott, on the 12th of the present month. He died at Yonkers, of pneumonia, after a sickness of two days. Dr. Mott was a well-known member of a well-known family. He was a son of Valentine Mott, the world-renowned surgeon. Alexander Mott was born in New York in 1826. Few surgeons were as well known in New York up to 1860, when he organized the medical corps of the militia work. He was commissioned a surgeon in the U. S. Volunteers in 1862, with the rank of Major. He founded the United States Army General Hospital in New York, and about the end of 1864 he became medical inspector of the department of Virginia, and was attached to General E. O. C. Ord's staff. Dr. Mott was at the memorable conference between General Grant and General Lee when the terms of surrender were arranged, and, with the brevet of Colonel, was mustered out of the service on July 17, 1865. He then resumed practice in New York, and helped to found Bellevue Medical College, where he was Professor of Surgical Anatomy and remained until 1872. He leaves a son, Dr. Valentine Mott, who is also well known in the medical profession.

## MISCELLANY.

HYGIENE.—It is the province of hygiene to seek out and determine the causes of disease, and to formulate rules for their prevention and removal. It may thus be called also preventive medicine. The progress of hygiene, such as it was, rested for many ages upon an empirical basis; and indeed, to a large extent, this is still the case. The subject has, however, in later times at least, been studied to considerable advantage, though much remains to be done.

Two centuries ago the mortality of London was 80 per 1,000; at the present day it is under 23. A century ago ships could barely keep the sea for scurvy, while jails and hospitals were in many cases the hotbeds of fatal diseases. Now, these conditions are rectified, or at least the means of rectifying them are known. Thirty years ago the English troops at home died at the rate of 20 per 1,000, now their death-rate is less than one-half of this. A knowledge of the causes and modes of propagation of disease being necessary in order to provide rules for its prevention, it is obvious that hygiene must be largely dependent upon the advances made in pathology and

etiology; hence the impossibility of any yearly marked progress in former times, by reason of the imperfection of the collateral sciences, and the want of the appliances more recently made available for inquiries of such difficult and recondite character.

Within this century, however, and especially within the last forty or fifty years, it has been possible to follow out the subject on a more strictly scientific basis, and so to lay a foundation at last on which to build a structure which may one day entitle hygiene to a place among the more exact sciences.—*Plumber and Gasfitters' Review.*

NEW YORK STATE MEDICAL ASSOCIATION (FIFTH DISTRICT BRANCH).—The seventh special meeting of the Fifth District Branch will be held in the Fowler House, Port Jervis, at 2 P.M., on Tuesday, August 27. The following scientific papers will be presented: "Some Observations on the Use of Concentrated Lactic Acid," by W. B. Eager, M.D.; "The Treatment of Typhoid Fever, with special reference to the Cold Water Method," by J. H. Hunt, M.D.; "A Case of Empyema," by H. B. Swartwout, M.D.

For those who may desire to remain over night, a drive to Milford, Pa., to visit the Sawkill Falls (with supper at the Fauchere House) has been arranged for. Friends of the Fellows—both medical and lay—are cordially invited to participate in this excursion. Ladies are especially invited.

The total expenses for the whole trip, which includes the railroad return ticket between New York and Port Jervis, dinner at the Fowler House, drive to Milford and return, supper at Fauchere's and accommodations over night at Port Jervis, will not exceed $6.50 for each person. If there is a large attendance this amount will be considerably reduced.

THE LATEST arrivals of new remedies in this market include wrightine, frequently mentioned in journals of late, condurangin, kawain, from Kava Kava, and pyrotechin, used by photographers.—*Notes on New Remedies.*

DR. N. SENN has been proposed for honorary membership in the National Academy of Medicine of Mexico.

THE UNITED STATES HAY FEVER ASSOCIATION will hold its sixteenth annual meeting on the 27th inst., at Bethlehem, N. H.

SULFONAL.—Dr. T. Lauder Brunton says, in one of the Croonian Lectures, that sulfonal appears to be one of the most effective of all the newly introduced hypnotics, and although it does not, like morphine, compel sleep, it induces sleep in a pleasant manner and has few disagreeable effects and little or no danger. Sulfonal has recently declined in price.

AN INFANTS' SUMMER HOSPITAL has been established by the citizens of Rochester, N. Y., at Charlotte, on Lake Ontario. Dr. E. M. Moore is President of the Association, and Dr. George W. Goler is attending physician. Any child suffering from intestinal trouble is treated free of charge. There are accommodations for twenty patients, and many children who would otherwise have received no medical treatment have been cared for.—*N. Y. Medical Journal*

## *LETTERS RECEIVED.*

Dr. Pinkney Thompson, Bowling Green, Ky.; Dr. F. M. Haners, Buffalo, N. Y.; Dr. E. J. Mellish, Ishpeming, Mich.; Dr. J. J. Bland, Houma, Tex.; J. Walter Thompson, J, H. Bates, New York; Dr. J. M. Dunham, Columbus, O.; Dr. J. M. Bennett, Coldwater, Mich.; Dr. J. F. Thompson, Lexington, Ky.; Dr. A. L. Hummel, Philadelphia; Dr. D. F. Lincoln, Nantucket, R.I.; Dr. R. J. Dunglison, Philadelphia; Dr. H. V. Ogden, Milwaukee, Wis.: Dr. Andrew J. Coey, Chicago; Dr. F. Wertz, Jasper, Ind.; Dr. Chas. E. Sajous, Philadelphia; Thomas Leeming & Co., New York; Dr. R. Harvey Reed, Mansfield, O.; Dr. Thomas Elliott, Worth, Tex.; Dr. Harold N. Moyer, Chicago; Smithsonian Institute, Washington; Dr. Lachlan Tyler, Washington; Subscription News Co., Chicago; Dr. C. Eugene Riggs, St. Paul, Minn.; Dr. Jas. Dudley Morgan, Washington; Dr. C. H. Smith, Lebanon, Ind.; Dr. O. H. Merrill, Corinna, Me.; Dr. R. F. Sutton, Deer Park, Md.; W. P. Cleary, New York; Malted Milk Co., Racine, Wis.; Dr. Wolfred Nelson, Pine Bluff, Ark.; Dr. R. L. Brodie, Charleston, S. C.; J. B. Lippincott, Philadelphia; Nichols & Shepard, Three Rivers, Mich.; *British Medical Journal*, London, Eng.; Dr. J. M. Emmert, Atlantic, Ia.; Gaunt & Janvier, New York; Dr. Wm. Bock, Fort Bidwell, Cal.; Dr. H. G. Chritzman, Welsh Run, Pa.; Dr. J. E. Davidson, Unity Station, Pa.; Dr. Benjamin F. Gibson, Midway, Tex.; Dr. Wm. D. Ruhl, Sheldon, Ind.; Dr. T. Walton Todd, San Diego, Cal.; Dr. Wm. B. Atkinson, Philadelphia.

*Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from August 10, 1889, to August 16, 1889.*

Major William H. Gardner, Surgeon U. S. Army, Washington Bks., granted leave of absence for one month. Par. 1, S. O. 183, Hdqrs. Div. of the Atlantic, Governor's Island, New York City, August 13, 1889.

Major Washington Matthews, Surgeon U. S. Army, promoted to Surgeon U. S. Army, with rank of Major, to take effect from the 10th day of July, 1889, vice Tonn, promoted. War Department, Washington, D. C., August 14, 1889.

By direction of the Secretary of War, a board of medical officers, to consist of Lieut.-Col. Anthony Heger, Surgeon, Capt. John O. Skinner and Capt. James C. Merrill, Asst. Surgeons, will assemble at the U. S. Military Academy, West Point, N. Y., on August 25, 1889, or as soon thereafter as practicable, to examine into the physical qualifications of the candidates for admission to the Academy. Par. 9, S. O. 185, A. G. O., August 12, 1889.

By direction of the Secretary of War, Capt. Joseph Y. Porter, Asst. Surgeon, now at Jacksonville, Fla., will, if the state of his health will permit, proceed to Jackson Bks., La., and report to the commanding officer of that post for temporary duty, and by letter to the commanding General, Div. of the Atlantic. Par. 16, S. O. 186, A. G. O., August 13, 1889.

Capt. Valery Havard, Asst. Surgeon U. S. Army, granted leave of absence for one month, to take effect about October 1, 1889, with permission to apply to Division Hdqrs. for an extension of one month. Par. 3, S. O. 80, Dept. Dak., St. Paul, Aug. 10, 1889.

*Official List of Changes in the Medical Corps of the U. S. Navy for the Week Ending August 17, 1889.*

Surgeon B. F. Rogers, detached from U. S. S. "Alliance" and wait orders.

Surgeon G. E. H. Harmon, ordered to the U. S. S. "Constellation." August 13, 1889.

Asst. Surgeon C. H. T. Lowndes, ordered to the U. S. S. "Constellation." August 13, 1889.

Asst. Surgeon C. J. Decker, detached from U. S. S "Lancaster" and granted four months' leave of absence.

P. A. Surgeon L. B. Baldwin, detached from U. S. S. "Ranger," ordered home and wait orders.

Surgeon H. P. Harvey, ordered to the U. S. S. "Ranger."

P. A. Surgeon P. A. Lovering, ordered to the receiving ship "Wabash," at Boston Navy Yard.

Surgeon C. A. Siegfried, ordered to the naval station at New London, Conn.